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DEVELOPMENT DEPARTMENT

PROPOSALS FOR THE ECONOMIC DEVELOPMENT OF THE RAYALASEEMA

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GOVERNMENT PRESS

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From

SRI P. V. SUBBA ROW,
Development Commissioner, Rayalaseema.

To

THE SECRETARY TO GOVERNMENT,
DEVELOPMENT DEPARTMENT.

Dated Fort St. George, the 19th April 1948.

SIR,

[Post-war development—Economic development of Rayalaseema. *Reference.*—G.O. Ms. No. 5234, Development, dated the 12th November 1947.]

In the Government Order cited above, the Government sanctioned the creation of the post of Development Commissioner for a period of three months for the preparation and submission of a report formulating a co-ordinated plan for the economic development of Rayalaseema. The period was extended by three months in G.O. Ms. No. 431, Development, dated the 29th January 1948. I was appointed to the post in G.O. No. 1042, Public (Special), dated the 12th November 1947, and I took charge on the afternoon of the 13th November 1947.

The subject of planning has been engaging the attention of the Government for some years. Several schemes have been published by politicians, industrialists and economists from time to time. The Madras Government formed a Post-war Reconstruction Committee in August 1944 and based on its recommendations a comprehensive five-year plan for post-war reconstruction and development has been prepared. Several conferences have been held in which one or other aspect of the economic life was discussed in detail and resolutions were adopted. Every branch of development has thus been covered. The report I submit herewith therefore contains no new or original proposals. I have simply tried to invite attention to the problems of Rayalaseema which occurred from my own general knowledge of the tract and visits to certain parts of it and to suggest the adoption of such plans with some modifications as seemed most suitable for the needs of the tract.

I have made some suggestions for the employment of additional staff. I have not lost sight of the fact that an expert committee is framing proposals for reorganization and retrenchment. But I venture to submit that when the activities of the Government expand, the employment of additional staff is indispensable. My proposals do not, however, involve the employment of a huge parallel staff to put the development proposals into effect. I propose that use should be made of the existing staff and it be strengthened to the extent necessary as works proceed.

In this connexion, I request leave to invite attention to the fact that there are far too many departments doing the same or similar work in the districts. The activities of the ameliorative branch of the Prohibition with its co-operative staff, the permanent staff of the Co-operative Department, the Cottage Industries staff, the Intensive Firka Development staff overlap in many directions. It would conduce to greater efficiency and better co-ordination if they are all brought under the control of a single authority. In the Rayalaseema districts, at any rate, the Revenue Department, through the village officers, continues its hold on village life and unless more use of the Revenue Department is made in matters of development, progress will be slow and uneven.

✓ The Government have been already sanctioning several schemes for the development of the Province and the Rayalaseema will no doubt get its fair share of the benefits. But in view of the backwardness of the Rayalaseema districts and the frequent famines to which they are subject, some special assistance is necessary to bring the Rayalaseema districts to the level of the rest of the Province. I have given a rough estimate of the cost of special schemes proposed for the tract or the schemes for which priority is requested.

Your obedient servant,

PROPOSALS FOR THE ECONOMIC DEVELOPMENT OF THE RAYALASEEMA

CHAPTER I—PRELIMINARY SURVEY

The Rayalaseema tract compels the attention of the Government owing to its liability to frequent famines. Famine relief was, for several decades, formulated on the criterion that the duty of the Government stopped with the prevention of death from starvation and that it was no part of its duty to maintain the people at their normal level of comfort or to ensue them against all sufferings. The question of taking measure to prevent a recurrence of famines was not considered at all. The Famine Code Revision Committee, appointed by the Government in G.O. Press No. 1137, Revenue, dated 2nd May 1938, took a more generous view of the scope of famine relief and recommended that the introduction to the Famine Code be amended to the effect that "it is also essential for the State to maintain its people in good health and prevent physical deterioration and dis-spiritedness". For the first time in famine administration the adoption of a bold policy that would create much needed wealth to the people, foster their powers of resistance, and which would, in the long run, save the resources of the State from the steady drain caused by the recurring needs and continued poverty of these districts was urged. The Committee indicated the lines along which Government activities should be directed for giving effect to the new policy it advocated.

2 The Committee held that a special agency should be created for planning the prosperity of these districts and thought that the best agency would be a Board with the Member of the Board of Revenue in charge of Famine as Chairman, five Heads of Departments viz., Irrigation, Forests, Co-operation, Industries and Agriculture, and six non-officials as members. A full-time Secretary stationed in Bellary was also recommended in order to give continuity to the work and push through the programme. The Committee signed the report on 12th November 1938. The Ceded Districts Economic Development Board was constituted in G.O. No. 641 Development, dated 29th March 1941. Its first Secretary, Sri S. Venkatanarasayya Nayudu (a Deputy Collector) joined duty on 26th April 1941. From 1941 to the end of 1947 the Board

Dates of meeting	Interval between meetings	
	MS	DS
1 21 Aug 1941		
2 29 Nov 1941	3	3
3 7 July 1942	7	14
4 10 Aug 1942	1	3
5 31 Mar 1943	7	21
6 9 Sep 1943	5	9
7 5 Feb 1944	1	27
8 21 Jun 1944	4	16
9 21 Mar 1945	11	0
10 13 July 1945	1	22
11 8 Dec 1945	4	26
12 6 Apr 1946	3	26
13 6 Aug 1946	4	0
14 7 Jan 1947	5	1
15 10 Sep 1947	8	3

held fifteen meetings on the dates noted in the margin. It will be seen therefrom that there were no regular periodical meetings. They were convened at irregular intervals, apparently owing to the calls of the normal duties of the Chairman as a Member of the Board of Revenue in charge of Irrigation. On an average, only two meetings were held in a year. There were frequent changes in the person of the Chairman, viz. Sir Gerald Priestly in 1941, Mr. F. M. Gawne in 1942, Messrs. Masterman and E. C. Wood in 1943, Mr. Westlake in 1944, Messrs. Dixon and McEwan in 1945, Mr. Ranganathan in 1946 and Sir Gerald Priestly and Mr. V. N. Kudva in 1947. I shall now deal with the various recommendations of the committee made with a view to give permanent relief to the tract and the action taken on them so far.

3 *Industries—(a) Recommendation.*—The first recommendation was that a thorough survey of the mining possibilities with special reference to manganese, iron, barytes, steatite, gold and asbestos should be made and that special facilities should be given for the formation of companies and establishment of industries to utilize the product whenever possible.

✓ *Action taken.*—As the Government of India undertook to survey all the important mineral deposits of the Province, the Madras Government dropped the idea of appointing Mining Geologists of their own. The Geological Department has been surveying selected areas in the field seasons lasting for about six months each year. In 1941, asbestos and barytes in Pulvondla taluk of Cuddapah district were investigated. Investigation of clay deposits in four places in Kurnool district, one in Anantapur and seven in Cuddapah was conducted during 1942-43. In the course of this survey the existence of other mineral deposits, red oxide, steatite, and yellow ochre was noticed and mentioned. To utilize the clay deposits, three training centres, one at Betemcherla in Kurnool district, one at Harpanahalli, and a third at Cuddapah were opened to train potters in the manufacture of stoneware and earthenware on improved lines. The Betemcherla centre has since been closed down and at Cuddapah centre the potters are

now confining themselves to the production of articles not different at all from the products of local potters except for slightly better durability. In the field season of 1942-43, the iron ore deposits near Ramallakota in Kurnool district were surveyed. During this season the slate belts of Cumbum and Markapur in Kurnool district were also examined in detail. A full investigation of ceramic raw materials in Rajampet taluk of Cuddapah district was undertaken during 1944-45 and in 1945 an assistant geologist examined the deposits of limestone in Kurnool town.

The Rayalaseema by all accounts is reported to be rich in mineral wealth. The geological survey so far undertaken has been sporadic and limited to certain known minerals. The geological reports are usually recorded on receipt, no action is taken to make use of the recommendations. The slate industry in Markapur is an instance. The Government have not undertaken mining of any mineral or promoted any mining industry so far; the field has so far been left entirely for private enterprise. Barytes are being exported on a very large scale from the districts of Cuddapah and Kurnool and the only industry connected with it is the crushing plant established in a few centres in Anantapur and Cuddapah districts; and this only means export of raw materials in a convenient form. These districts have the largest deposits of this mineral in India, but there is no plant industry anywhere in this Province though barytes forms the base for most paints.

(b) *Recommendation*.—The Committee observed that industrialization was the only way of securing steady employment for those who have little or none. It was a matter of urgent importance to organize seasonal occupations wherever possible to give work for the agriculturist who is unemployed for many months in the year. Small-scale industries both as regards production and marketing should be organized under the auspices of the Co-operative movement.

Action taken.—In pursuance of this recommendation, Sri Chitra was deputed to Japan in 1939 to study the technique and the economics of the small-scale industries in that country. Sri Narasimharaju was also deputed to Japan in 1940 to undergo a course of training in ceramics. On receipt of their reports, the Government sanctioned the appointment of a special officer for the development of cottage industries in the Ceded Districts. Since nothing tangible was done, the Government, in G.O. No. 660, Development, dated 28th August 1943, directed that the development of pottery as a cottage industry should be taken up first. Three pottery centres were started at Cuddapah, Betamcherla and Harpanahalli. I have referred to them already and need say no more about them.

The Co-operative movement has made no great contribution to the promotion of small-scale industries. The condition of the Co-operative movement in the Rayalaseema was in general considered unsatisfactory and the Government appointed a committee with Sri N. Gopalaswami Ayyangar as Chairman to investigate the causes for this and suggest remedies therefor. The Committee submitted its report on 15th February 1946. The Government are still considering the report, possibly because some of the recommendations involve radical changes in the existing structure and methods. It is well to remember that desperate situations call for drastic remedies.

(c) *Recommendation*.—The main commercial crops grown are cotton and ground-nuts. Considering the abundance of raw materials on hand, the manufacture of textiles and of oils and oil products is the most hopeful line of development. The Committee was strongly of opinion that three or four spinning mills should be started at suitable centres such as Bellary, Tadpatri and Nandyal. It observed that it would be necessary for the Government to assist in raising the necessary capital through the State-aid to Industries Act and otherwise to secure efficient management and working.

Action taken.—No textile mill has yet come into existence, no doubt, largely because of the war. Licences have been granted for the following new mills:—

Bellary district—

1. Adoni The Rayalaseema Mills, Limited.
2. Bellary The Karnataka Spinning and Weaving Mills, Limited.

Anantapur district—

3. Tadpatri .. The Rayalaseema Textiles, Limited.
4. Penukonda .. The Anantapur Spinning and Weaving Mills, Limited.

Kurnool district—

5. Nandyal .. The Tungabhadra Textiles, Limited.

Cuddapah district—

6. Kamalapuram .. The Kamalapuram Spinning and Weaving Mills, Limited.

No. 1 is struggling for materials, iron and cement, etc., required for the construction of the buildings. It has placed orders for machinery, but owing to a change in the order of priority, it is not likely to get it before 1950. The other licensees except No. 3 are not making any serious efforts to make use of the licences. As far as I can make out, the Government are not giving them any special assistance but have left them to compete with the richer and more enterprising licensees in other parts of the Province, in the scramble for materials in short supply or machinery which has to be imported from abroad. Judged by the present rate of progress, it does not seem that even half the number of mills will come into existence before 1953.

A number of groundnut oil expellers came into existence owing to the demand during the war. I have not been able to ascertain the exact number of mills. But it is clear that they are not properly distributed. The tendency has been to form clusters of them in a few centres such as Adoni, Dhone and some have begun to close down.

A licence has been granted for Vegetable Oil Industry in the name of the Hindupur Vegetable Oil and Refineries, Limited, at Hindupur in Anantapur district. The buildings are in the process of construction and some of the machinery has arrived. Progress is slow owing to the difficulty in obtaining the required allotment of steel. Hindupur is at one end of the tract on the Mysore border and is distant from the bulk of the groundnut growing area. One refinery was recently started at Pamidi. It has now closed and is awaiting an allotment of caustic soda. The Karnataka Vegetable Oils and Refineries, Limited, Hospet, Bellary district, holds a licence for the vegetable ghee industry. The mill sponsored by Birlas is under construction in Kurnool district and is expected to commence work in June of this year. Capital issues have been authorized for the Rayalaseema Refineries, Limited, Cuddapah, to Sri M. L. Narayanaswami of Tadpatri. He is now under treatment for tuberculosis. Licences for oil mills have been issued to (1) Krishna Oil Mills, (2) Sri Venkateswara Oil Mills, (3) Padmanabiah Chetty, all in Dhone, a small panchayat in Kurnool district, (4) Rayachoti Veeranna and Sons, Adoni, and (5) Sri M. L. Narayanaswami of Tadpatri.

It will be seen from the above details that there has been some activity in the oil field; but the progress is not what it should have been. Proper location to secure even distribution does not seem to have been kept in view. The State has played no active part in the development of this industry.

(d) *Recommendation*.—The Committee looked upon hand-spinning and hand-weaving as worthy of every encouragement as cottage industries for both whole-time and part-time workers.

Action taken.—The Government sanctioned a subsidy of Rs. 1,000 to the khadi spinning centre, Uravakonda, for distributing 200 charkas to the poor spinners. Only 113 were actually distributed. Co-operative societies were formed at (1) Yemmiganur, (2) Uravakonda, (3) Adoni, (4) Jammalamadugu, (5) Lepakshi, (6) Besthwarpet, (7) Nandyal, (8) Pullampet and (9) Pyapalli. Arrangements are being made to construct colonies for weavers in Yemmiganur, Uravakonda, Besthwarpet and Pullampet by the respective societies and other centres desire to follow their example. The society at Yemmiganur is well organized under the direction of Mr. Somappa and is a model for others to copy. The Adoni Society fell on evil days and has just been revived. The other societies are now doing fairly well.

The industry had a prosperous time during the war. With conditions gradually returning to normal, the societies are beginning to feel the pinch. I saw stocks accumulating in a few centres and production being slowed down. Unless proper measures are soon devised and adopted, the industry is certain to relapse into its pre-war condition and land the large body of weavers in distress.

(e) *Recommendation*.—Other raw materials suitable for the organization of industries on a large or small scale are sugarcane, fruit, castor, avaram and also fibre.

Action taken.—There was one sugar factory at Hospet already in existence. It has had a chequered career and has now passed out of the hands of local people. The daily crushing capacity is 600 tons of cane and the factory produces on an average about 6400 tons of sugar. Permission for increasing the crushing capacity to 800 tons a day was granted in 1946 and the factory should, if the expansion plans materialize, be able to produce about 9,000 tons of sugar. A licence has been granted for the Rayalaseema Sugar and Allied Products Industry, Limited, Hindupur, Anantapur district. The sponsor has no capital of his own and some local capitalists are just now attempting to raise funds. Final selection of the site has not been made yet.

Production and refining of date jaggery has made no progress at all. One solitary individual, Sri D. Hanumantha Rao of Doddaghatta, Penukonda taluk, Anantapur district, attempted its manufacture on a small scale on his own account and from the statement of accounts kindly furnished by him, it is seen that it can be worked with a profit. For a unit of 100 trees worked for three months, the net profit is estimated at Rs. 60.

The fruit research station at Anantarajupet in Cuddapah has given an impetus to fruit production and oranges are grown over large extents in Rajampet taluk particularly in Koduru area. But this was being done even before the Committee made its recommendations. There has been no expansion since then. A soil survey officer was appointed in 1946 to examine the suitability of five areas selected by the Director of Agriculture. Action has yet to be taken on his report. The proposal to establish a fruit preservation and canning factory at Panyam, Kurnool district, did not materialize. The machinery for canning sent to Koduru was not unpacked at all and I was told that the removal of the machinery to Madras is under consideration.

Ericulture of silkworms that feed on castor has just made a start. A farm at Kudligi in Bellary district for raising of the worms has been opened.

On the advice of the Chief Conservator of Forests the Government directed that avaram should be planted in contiguous blocks in panchayat forests. The working of the forest panchayats is in general unsatisfactory and it is idle to expect any achievements from them. Increased growth of avaram is particularly necessary now on account of the ban placed on the import of wattle bark from South Africa.

A demonstration party sanctioned by the Government worked for some time in Hindupur, Alur and Gooty to teach improved methods of tanning and leather goods manufacture. Sri Venkataramanayya of Lepakshi (Hindupur) told me that the party moved away just as he received the chemicals required and that they are now a dead weight on his hands. Tanning has been discontinued by this society. It has also been stopped at Gooty and the few cobblers at Gooty and Alur are now struggling for survival.

The Committee attracted by the plantation run on a commercial scale in Penukonda taluk, recommended the developing of sisal fibre industry. The proposal was considered but was not actively pursued as the departmental experts were sceptic about its success.

(f) *Recommendation.*—The Committee referred to two small-scale village industries which it thought should be encouraged or revived.

The glass bangle industry was once flourishing. It is now carried on at Guttur in Penukonda taluk as a sweated cottage industry. The only way to improve the industry is to supply good glass or produce it locally and to train some bangle makers in improved methods. The Ceramic Expert studied the industry in Bombay, United Provinces and Bengal. On his report submitted in 1945, a training centre has been opened at Kalabasti and Guttur has sent two students for training.

Slate industry at Markapur is being mostly carried on as a cottage industry from 1921. The Forest department did not think it worthwhile to grow suitable wood for frames and the wood is being imported from long distances like Malabar and Hasan and Belur in Mysore. There has been no material change either in the method of quarrying or in the manufacture of slates; nearly 90 per cent of the quarried material is wasted. The war induced prosperity will soon begin to wane as outside competition gathers pace. This is an industry which properly developed may have an overseas market.

(g) *Recommendation.*—The Committee considered that it ought not to be difficult to increase the production of wool. The crying need of the industry was the quality of wool and that in its turn depended on the provision of better grazing facilities. The Committee also recommended the establishment of a Sheep Breeding Station.

To improve the quality of wool, 20 Bikaner rams were distributed to the members of the Kuditini Sheep Breeding Society with a subsidy of Rs. 2,750. As the shepherds did not know how to take proper care of them, nearly half of them have died. The purchase of 20 more for distribution to a few selected persons in Hospet in Bellary district and Nandikotkur taluk in Kurnool district has been sanctioned. The inadequacy of this for a tract which has a sheep population of 2,532,876 as shown below is apparent:—

Kurnool	..	..	..	..	471,946
Bellary	..	..	..	..	272,531
Anantapur	..	..	..	..	799,147
Cuddapah	..	..	..	..	407,737
Chittoor	..	..	..	..	581,515
					<hr/> 2,532,876

The only grazing facility provided was in the case of the Kuditini Society which has been given a portion of a panchayat reserve and some unassessed land adjoining. The shepherds told me that there was no growth of grass worth the name in the tract.

A combined sheep and cattle-farm has been sanctioned in Kurikuppi of Hospet taluk, Bellary district. The farm has not started.

An attempt at improved methods of weaving has been made at Bisalahalli with the aid of the Government. The concern is a very small one.

The woollen industry is carried on in a primitive way; there is no cleaning or grading of wool; the looms are antiquated and there is no organized marketing. The Registrar of Co-operative Societies has a scheme for cleaning and grading with the aid of a carding machine at a central place and a request for subsidy to buy a machine is pending.

(h) *Recommendation*.—The Committee recommended that centres may be opened for training in the manufacture of hand-made paper. Demonstrations of improved tanning, soap manufacture and jaggery manufacture were also supported.

Two parties for the demonstration of hand-made paper were employed in parts of Cuddapah and Anantapur districts, but seem to have produced no impression. Two demonstration centres for manufacture of hand-made paper on a commercial scale were opened at Bugga (Cuddapah) and Gazulapalli (Kurnool). The latter has been closed down and machinery sold; the former has stopped production and is disposing of its stocks preparatory to closing down.

Soap-making was dropped as demonstration parties found that water in many localities was brackish, consumption of soap in the tract low, and coconut oil necessary for making good soap was not locally available.

I did not discover that any demonstrations were held to improve the quality of jaggery made of sugarcane.

4. *Agriculture*.—The recommendations for increasing the quantity and quality of raw materials were few :—

(a) *Recommendation*.—Use of small bunding instruments should be demonstrated and the instruments given free of cost.

Action taken.—Small bund formers made mostly out of wood were devised and bunding was demonstrated in six taluks of Bellary district in 1944-45 by 11 maistris appointed for two months. The Director of Agriculture held that they breached freely and in 1946-47 the results were declared not encouraging.

Experiments on contour bunding were undertaken at Hagari farm on an extent of 100 acres. The ryots are impressed by its beneficial results and are willing to consent to its extension. Two schemes for contour bunding, (1) on an extent of 2,500 acres in the neighbourhood of Hagari farm and (2) on an extent of 5,500 acres round about Guntakal partly in Anantapur district and partly in Bellary district have been sent up by the Director of Agriculture and the Chief Engineer for Irrigation. They are held over pending legislation on contour bunding and the visit of two officers of this Government to the Bombay Province to study the latest results of contour bunding in that area. The Bombay Government have asked that the visit should be postponed till the report of the Land Improvement Committee is published.

(b) The Committee was unable to recommend any other method of dry farming. They suggested the supply of good seeds required by the ryots through the Agricultural Department and did not consider it necessary to open seed granaries.

The areas brought under improved strains during 1946-47 and the total areas under these crops are given below :—

Crop.					Total area.	Area under improved strain.
					ACS.	ACS.
Paddy	..	..	..	..	639,309	132,952
Cholam	..	..	..	..	1,773,834	406,203
Korra	..	..	..	..	1,441,295	42,464
Ragi	..	..	..	..	327,006	28,542
Cotton	..	..	..	..	614,915	363,132
Sugarcane	..	..	..	..	38,497	33,943
Groundnut	..	..	..	..	1,696,621	30,207

It will be seen from the above that considerable ground has still to be covered under all crops except sugarcane.

5. *Irrigation*.—Irrigation has been considered the chief panacea for all the ills to which the tract is subject. The only way of obtaining an assured water-supply is by the construction of storage reservoirs supplied by perennial waters or by impounding flood water which would otherwise run to waste.

(a) The Committee recommended that all the resources of state should be thrown into the Tungabhadra Project, and that the first stage of the Project should be sanctioned and completed as soon as possible. Legislation should be enacted authorising (i) the levy of a compulsory water-cess on the entire commanded ayacut, (ii) the compulsory acquisition of land which has not been brought under regular irrigation within ten years of the water being first supplied and (iii) the compulsory adoption of the prescribed rotation of crops.

Action taken.—A truncated project has since been sanctioned and work is in progress. The areas that will be served by it are not those most liable to famine. I shall deal with other particulars connected with the development of the project area separately.

(b) *Kurnool-Cuddapah Canal.*—The main cause for the failure of this canal is the policy of *laissez faire* which the Government have adopted towards it. To put a stop to the colossal waste of the resources provided by the Government, the Committee recommended that legislation similar to what has been proposed for the Tungabhadra Project should be applied to the Kurnool-Cuddapah canal.

After protracted correspondence between the Engineering, Revenue and Agricultural departments, it was decided that a special investigation should be made of a limited selected block to ascertain whether localization of separate wet, irrigated dry, and dry blocks was possible. The Special Officer submitted his report towards the end of November 1946. His conclusions are that by continued practice lands are generally automatically forming themselves into compact blocks of different kinds of irrigation and that localization was feasible. The report is still under consideration of the Heads of Departments, and has not come up to the Government for orders.

(c) The Committee recommended execution of the Pennar-Kumudavati Project as the most hopeful of schemes for the red soils of Hindupur and Penukonda taluks. If all goes well, it is expected that the scheme will be taken up for execution during 1948-49.

(d) There are tracts in Ceded Districts where it is possible to get water for irrigation at reasonable depths. The Committee recommended that the banks of rivers and water courses and red soils should be surveyed without delay for the purpose and the ryots encouraged to dig wells. Special loans schemes should be sanctioned for excavating new wells and for renovating abandoned wells. The Committee also suggested for serious consideration of the Government sinking wells, supplying water for irrigation and charging a compulsory water rate.

Geological survey of sub-soil sources of water.—During parts of the season in 1940-41 and 1941-42 a narrow belt of 5 to 6 miles between Chitravati River on the west and Cuddapah town in the east was examined. In the 1942-43 season the areas surveyed were (1) Dhone-Betemcherla belt, (2) parts of Tadpatri and Cuddapah taluks and (3) Siddavattam railway station to Kodur. During 1943-44 the Cumbum-Markapur valley and Veldurthi-Ramallakota area were examined. I did not discover that any use was made of the surveys in selecting areas for wells sinking. The water table was in most tracts investigated found to be high. Afforestation of the high grounds and planting of trees, near villages and village wells were recommended. This advice was communicated to the Collectors and they were asked to arrange for tree planting. Thousands of seeds are distributed every year by the Forest Department so far without any result. The Superintending Geologist intimated on 23rd November 1945 that a new circle called the Engineering Geological Circle for the purpose of examining the water-supply problem would shortly be formed. The Superintending Geologist told me that he expected the Officer selected to join some time in February 1948.

The Government have in recent years sanctioned schemes for subsidizing well sinking. The details below indicate the extent to which the tract has benefited from the schemes up to the end of August 1947:—

Accelerated schemes.	Bellary.	Anantapur.	Kurnool.	Cuddapah.	Chittoor.
<i>New wells.</i>					
1. (i) Number of wells for which subsidies have been paid	262	776	378	877	5,903
(ii) Number of wells completed	133	406	58	550	1,775
(iii) Number of wells to be commenced or in progress	129	370	220	327	4,128
2. Modified wells schemes for the Ceded districts—					
(i) Number of wells for which subsidies have been paid	727	237	188	847	..
(ii) Number completed	58	4	1	26	..
(iii) In progress or to be commenced	669	233	187	821	..
Total number of wells completed	191	410	59	576	1,775
Grand total ..					3,011

Accelerated schemes.	Bellary.	Anantapur.	Kurnool.	Cuddapah.	Chittoor.
<i>Old wells.</i>					
1. Accelerated schemes—					
(a) Number of wells for which subsidies were paid	246	220	401	746	3,427
(b) Number of wells completed *	219	153	200	539	1,696
(c) Number in progress or to be commenced.	27	67	141	207	1,731
2. Ceded districts modified scheme—					
a) Number of wells for which subsidies were granted	100	329	6	93	..
(b) Number of wells completed	11	53	2	39	..
(c) In progress or to be commenced	89	236	4	54	..
Total number of wells completed ..	230	246	262	578	1,696
Grand total ..					3,012

* Total of old and new wells—3,011 + 3,012 = 6,023.

Assuming that on an average a well serves 3 acres, the area protected by the wells completed is $6,023 \times 3 = 18,069$ acres, which represent about 0.1 per cent of the net area cultivated which is 7,841,500 acres. It will be noticed that the districts of Chittoor, Anantapur and Cuddapah have availed themselves of the schemes to a larger extent than Bellary and Kurnool districts because well irrigation was already fairly popular in the former group of districts. The total number of wells in this tract is 100,278 which forms about 14 per cent of the total wells in the Province. The districts of Coimbatore, Salem and North Arcot which suffer equally from deficit rainfall are able to withstand the failure of a monsoon better and between them they have 45 per cent of the wells in the Province.

The suggestions that the Government themselves should sink wells does not seem to have received any notice. Certain wells were started during the famine relief operations in 1945-46 but they were not completed because the famine relief operations were closed while they were under execution. The Collector of Anantapur gave me the following instances in his district:—

Taluk.	Village.	Amount of est.mate. RS.	Value of work done. RS.
Tadpatri	Bhogamandram—		
	S. No. 1199	(1) 8,600	2,598
	S. No. 1173	(2) 7,250	842
	Nattoor—		
Gooty	S. No. 804	10,200	2,421
	S. No. 330	8,750	3,438
	S. No. 547	6,300	1,485

The amounts already spent will have to be treated as thrown away.

(e) In the red soil tracts generally there is a large number of small tanks many of which stand in need of repairs both as regards the bund and the supply channel. The Committee was of the view that the repairs of these should be undertaken and the old breached tanks should be repaired wherever possible, and the possibility of making new tanks should be examined. To carry out these recommendations, the Committee recommended that (1) the Tank Restoration Schemes investigation should be completed and the old memoirs brought up to date and (2) and to have an agency for continuous investigation and construction of both major and minor schemes, the minor scheme irrigation staff should be combined with the Public Works Department for a period of five years.

A Tank Restoration Scheme subdivision was sanctioned in 1941, but it was soon closed for want of staff; instead a special subdivision for investigation of abandoned irrigation projects was formed and it is at work now. The Government agreed with the Board that it was not necessary to accept the latter proposal.

The attention bestowed on Minor Irrigation sources during the last five faslis will be seen from the figures given below:—

Fasli.	Rayalaseema.		Whole province.		Percentage of Rayalaseema.	
	Number repaired.	Amount spent.	Number repaired.	Amount spent.	Number	Amount.
		RS.		RS.		RS.
1351	687	1,90,113	2,690	8,03,678	25	23.6
1352	604	1,74,740	3,047	8,78,316	20	19.8
1353	451	1,28,146	3,059	10,49,322	15	12.2
1354	394	1,89,694	2,036	1,09,234	19	17.0
1355	428	2,26,704	2,741	15,28,157	16	14.7

It will be clear from the above that the number of works in Rayalaseema form 31 per cent of the sources in the Province and both in regard to the number of works repaired and the amounts spent in the Rayalaseema the share falls very much short of this percentage, let alone priority to a poor tract.

(f) The Committee recommended legislation of the kind proposed for the Kurnool-Cuddapah canal and Tungabhadra Project whenever a new scheme of irrigation was taken up. It also added that officers of the Government should be armed with plenary powers in the matter of distribution to avoid the waste of the small supplies that are

received in the Government sources. No legislation covering these points has so far been passed.

Before leaving the subject of irrigation, I would like to refer to the works executed under the Grow More Food Campaign. The share of the Rayalaseema in the works sanctioned and executed or under examination for the fiscal ending 30th June 1947 is as follows —

	Whole province	Rayalaseema	Percentage
Total number of works sanctioned	105	18	17
Cost of works sanctioned	1,64,29,815	1,12,186	17
Extent that is expected to be irrigated by the works	6,655	504	6

As rainfall is scanty and uncertain it is considered that no results can be achieved under the Grow More Food Campaign hence the small percentage of irrigable extent.

6. *Forests* —The Committee found abundant evidence that there was a steady process of denudation of forests. They suggested the reversal of the process, and a survey of the area to decide where afforestation could be carried out. It also recommended that forest panchayats should be given back to the control of the Forest department and that further research should be undertaken to determine the best quality of grass suitable for different soils and such grass to be grown in forests.

There was no survey nor afforestation nor research on grass. Nor was any grass growing attempted. Most Panchayat forests still continue to be under Panchayat control. The only special work undertaken by the Forest department in the tract is the afforestation of the Hagari and the Pennar banks to protect lands from the shifting sands. A length of 86 miles of the Hagari banks not continuous and six miles and five furlongs of the Pennar have been covered. A belt of four and a half miles along the alignment of the subsidiary channel of the Tungabhadra Project has also been planted. The results have justified the expenditure and the planting of the entire length of the rivers deserves serious consideration not only for protection of lands but also for improving the fuel supply.

7. *Drain caused by famines* —I have taken the report of the Famine Code Revision Committee, 1938, as the starting point for, as I have submitted already, the report marks a departure from the accepted policy in regard to famine relief. The Committee laid down that State intervention should be directed not merely to mitigate distress caused by famine, but also to steps that would prevent as far as possible their recurrence. The details of action taken on the various recommendations will show that there has been so far only tinkering with this problem and no marked progress in any direction. There was a famine on when the Committee held its investigation and prepared its report it affected five taluks in Bellary, four in Anantapur and two in Kurnool. This was followed by a wide spread famine in 1942-43 of unusually long duration and very severe in recent memory. Five taluks in Bellary district, seven in Anantapur and one taluk in Kurnool were in its grip. In 1945-46 again there was a mild famine of short duration in parts of Bellary and Anantapur. I give below the details of the charges incurred by the Government in combating these three famines:—

Year	Area affected	Population affected	Cost of works	Land revenue		Loans granted
				Suspended or postponed	Remitted	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	SQ. MILES		RS.	RS.	RS.	RS.
1937-38	4,365	712,023	21,92,855	88,387	14,52,477	2,47,313
1942-43	6,049	1,046,459	2,16,78,932	1,31,087	17,34,433	1,48,410
1945-46	9,034	1,417,832	17,91,779		Details not available	

The kind of employment usually provided on relief works is collection of road metal, this is stacked by the sides of the road and is gradually disintegrated by the weather into dust. As no works of permanent utility are undertaken, this amount spent on famine relief works is practically wasted. A departure was made during 1945-46 when some labour was employed on village works like wells and excavation of channels under the Tungabhadra Project.

8. It is difficult to estimate the losses sustained by the crops from the failure of crops. Assuming, however, that the average value of the yield per acre at the lowest is Rs. 50 (grain and fodder) and that 50 per cent of the area affected was cultivated, the value of the crop lost works out roughly as follows:—

	Area affected	Area cropped	Value
	ACS	ACS.	RS.
1937-38	4,365	1,396,800	6,98,40,000
1942-43	6,089	1,948,480	9,74,24,000
1945-46	9,034	2,890,880	1,44,54,400

The last famine was of short duration. I have therefore estimated the loss only at Rs. 10 an acre. If the usual famine cycle holds true, the tract is due to have a famine of fairly severe intensity in 1949-50.

CHAPTER II—LAND DEVELOPMENT.

I. IRRIGATION.

9 Agriculture is the more predominant occupation of the people in the tract than in the Province as a whole. According to the Census of 1931, the occupational figures for the 1911 census were not tabulated owing to the war, out of every thousand persons enumerated as earners (principal occupation) and working dependents the persons who depend on agriculture in Rayalaseema number 328 against 270 for the Province as a whole. In respect of trade, transport, public administration, the tract occupies the last place in the Province. It follows that any plan for the development of the tract must pay special attention to agricultural improvement. Cultivation is now precarious and unremunerative because of the low rainfall and uncertainty of the monsoons. The aim should be to make it less dependent on the seasonal fluctuations and to make it more paying. Several concessions were granted with a view to increase the area under food-crops but as the seasons were constantly unfavourable, there was no appreciable effect on the yield. I have already referred to the irrigation works sanctioned or executed under the Grow More Food Campaign. In general, the areas actually irrigated fall very much short of the areas they are expected to irrigate. I have been making enquiries during my tours into the causes for this slow development and have inspected some works myself.

10 I shall now refer to some of them—

(a) Construction of a reservoir at Chinnatekkur in Kurnool taluk, Kurnool district, at a cost of Rs 6,20,000 to irrigate 550 acres. The construction is complete except for raising the surplus weir wall by 11 feet. It is proposed to do this gradually in two or three years as the bund becomes consolidated for receiving the entire storage. During the last two years there has been good rainfall in the district. Many tanks surplused and now contain supplies for a second crop. The famous Cumbum tank has now 16 feet of water and Siddipuram tank for the first time after its construction thirty years ago surplused heavily and has 17 feet of water enough for the irrigation of the present ayacut during this year and the next. But in Chinnatekkur tank the surplus discharge, people told me, was only 2 inches high above the weir which is still practically at the bed level, no wall having been raised so far. Either the supply channel is not in order and is not bringing in the expected quantity of water or the capacity of the catchment must have considerably altered since the construction of the tank. However the fact remains that in this year of abundant rainfall, the water stored in the tank was enough for about 100 acres only. There was already a block of 50 acres under irrigation from a hill stream which has now been joined to the low level channel of the tank. Forty-four acres of this has been cultivated. The ryots explain that the rest was left waste as water does not reach the lands. The channel is heavily silted and there is a thick growth of jambu grass and prolific date trees which prevents the flow of water. Some water is escaping over the old dam built to divert the stream into the distributary channel because of silting and overgrowth. Work on clearing the channel has just been started and at my request the Executive Engineer has issued instructions for clearance of the portion above the dam to stop the waste. The condition of this channel in this portion does not seem to have received serious attention until on the complaint of the ryots, I took the local officers of the Revenue, Engineering and Agricultural Departments to the spot. Clearance of the channels is undoubtedly kudimaramath work, but owing to long neglect it is now beyond the resources of the ryots owning the old irrigated block. The work is likely to cost about Rs 2,500 and a ryot cannot possibly pay Rs 50 per acre on clearance. Water in the tank is now available for an additional 50 acres. The ryots have levelled up and made fit for receiving irrigation easy plots of about 10 acres. The soil is good and suitable for wet cultivation, but it is undulating and a considerable sum of money will have to be spent, about Rs 200 an acre, to level and terrace it. The Revenue Divisional Officer and the District Agricultural Officer were present during my inspection and they have undertaken to assist the ryots in reclamation by the use of bucket scrapers and such other devices. In a tract where wet cultivation is not very much in vogue, a ryot cannot be blamed if he is not too eager to spend money and labour on reclamation until he is sure of the supply in the tank. I have referred to the uncertainty of supply above. Tractors and other special facilities will be necessary if the expected increased irrigation is to materialize.

(b) *Gargayapuram Reservoir Project, Kurnool district.*—The cost as per revised estimate is Rs 1,70,000 and the extent to be irrigated is 200 acres. The project has been completed and the reservoir is filling and surplusing every year. This year, the flood was so heavy that the road which forms a flank of the weir was washed away for a considerable length. But ryots have not taken advantage of the water. The reasons are—

(i) The surplus course which runs in the middle of the ayacut is unable to pass the run off from the catchment and the ayacut is submerged. When the flood subsides, the manure is washed away and the lands are covered by pebbles and gravel brought down by the flowing water. Improvements to the surplus course are very necessary before wet

(ii) The lands are distributed to ex-military men who have no agricultural experience and lack the means to reclaim the lands and render them fit for cultivation. They are very rich lands and the local ryots desire keenly to get them and do not make it easy for outsiders to settle down. Disposal in auction is likely to fetch not less than Rs. 500 an acre. In the hands of the present occupants there is no near prospect of irrigation being put to beneficial use.

(c) Restoration of Gazulapalli tank in Penukonda taluk in Anantapur district was effected at a cost of Rs. 1,37,830. Out of an extent of 130 acres expected, only about 30 acres are actually irrigated due to differences between a rich landlord who hopes to appropriate the entire extent and the poorer landowners who seem to be fighting a losing battle with him.

(d) *The Vogur-Vakamada Project, Siddhout taluk, Cuddapah district.*—A channel from the right bank of the Pennar River was excavated at a cost of Rs. 2,57,400 for irrigating an extent of 1,157 acres in the villages of Vogur, Vakamada and four other villages. The extent actually irrigated in fasli 1356 was 342.60 acres and in fasli 1357 the extent was 352.48. The main cause for the slow progress is that water is not made available to all the lands by the formation of distributary channels. The head sluice was washed away during the floods in December 1946; the channel breached and silted up during the floods in 1947. I gather that the construction was designed to withstand normal floods but that the floods during the last two years were abnormally heavy.

The experience in these cases establishes, what was fairly well known already, that irrigation will not develop by the mere execution of engineering works. The Cauvery-Mettur Project was completed some years ago and in a tract steeped in wet cultivation, the programme lagged considerably behind promise. In 1943-45 the Government in pursuance of the Grow More Food Campaign decided to increase the area under paddy by about 55,000 acres in two stages and found it necessary to appoint special staff of a Collector with some Revenue subordinates, Assistant Engineers with adequate subordinate staff for nearly two years to achieve this. Close watch over the progress and intense supervision are necessary till the increased irrigation establishes itself to ascertain the difficulties encountered by the ryots and to take steps to remove them and give them special help in the directions needed. The officers of the Revenue, Engineering and Agricultural departments must work together to this end and supervision by a high ranking officer is necessary to ensure the necessary co-operation and co-ordination. At present I am afraid the need for such team work or the responsibility for securing the expected benefits from works on which the Government are spending large sums of money is not adequately realized by the district administrative staff.

11. In future plans, I urge that the first place should be given to the renovation and restoration of the minor irrigation sources. It is true that they depend largely on local rainfall and are apt to fail when they are most needed. But though they cannot give complete protection, they are of great importance as a supplement to rainfall and as sources of drinking-water for cattle in the summer months. That what already exists should be conserved and consolidated before extension is aimed at and achieved needs no elaborate argument. From a Grow More Food point of view, quicker and perhaps better results can be achieved soon if the irrigation sources in a ruined and disrepaired condition are first put in order. The cost will be much less than that of new schemes. They will require much less technical supervision and the ayacut is in most cases ready for irrigation or can easily be got ready. There can be no difference of opinion on the point that minor irrigation sources are deteriorating steadily from year to year owing to the neglect in the maintenance of the supply channels, the unceasing silting up of the tank-beds and that they are generally unable to store enough water for the ayacuts registered under them. There are no T.R.S. memoirs for some and the memoirs that exist are largely out of date owing to a change in the meteorological conditions. The rainfall to-day is not the same as it was thirty years ago, a result of the denudation of the forests. All the water that falls in the catchment area does not reach the tanks as a consequence of the extension of cultivation in the foreshore area. The sluices do not function properly, partly because of the uneven silting up of the bed.

12. There is the following minor irrigation staff in each district under the Collector :—

	Supervisors (Rs. 107—5— 150—10—250).	Overseers (Rs. 70—2— 90—3—120).	Inspectors (Rs. 16— 1—25).	Clerks draughtsmen (Rs. 45—2— 60—2—90).
Cuddapah	1	8	9	1
Anantapur	1	9	10	1
Bellary .. .. .	..	4	4	1
Kurnool	1	6	7	1
Chittoor	1	6	12	1
	4	29	32	5

The consensus of opinion is that the staff lacks sufficient technical skill and incentive or enthusiasm for want of opportunities for promotion and is generally unequal to the task. The Revenue officers to whom it is attached, in the midst of their multifarious duties, leave things very much to the minor irrigation staff and are largely guided by it—a case of blind leading the blind. When any technical points arise, they are referred to the Public Works Department; this results in considerable loss of time in correspondence, frequent difficulty in understanding and appreciating the questions involved and friction and misunderstanding all round. I have already given details of the amount spent on the repair of minor irrigation works during the last five faslis [please see paragraph 5 (e) above]. The mildest comment on them is that the attention paid is inadequate. Unless the minor irrigation staff is brought under the control of the Public Works Department and the Executive Engineer is made solely responsible for all the irrigation sources in a district, I see no prospect of speedy improvement. This change was recommended by the Famine Code Revision Committee but was not accepted. I would strongly urge that effect should be given to the recommendation at once.

13. To set right all defects and bring the minor irrigation sources to an efficient condition action should be taken on the following lines:—

A new subdivision should be created in each district to inspect all the sources existing, breached and abandoned and to revise the T.R.S. memoirs and prepare them where they do not exist. This subdivision should, as it completes the investigation of each source, prepare the estimates necessary for the repairs or improvements and submit them to the Executive Engineer. The Executive Engineer, when he sanctions the estimates, will pass them on to the regular subdivisions for execution. No special detailed technical examination is necessary at this stage. The main items to be attended to will be—

(i) to examine the supply channels and frame proposals for repairing or improving them;

(ii) to examine if cultivation in the foreshore has come dangerously near and if so, to propose the reservation, or even acquisition, if necessary, of the necessary margin;

(iii) to arrange for the planting of trees of a suitable timber variety to the width of a chain, more or less according to local conditions, along the foreshore to prevent further silting or extension of cultivation and to attract local clouds;

(iv) to examine the bund and consider the question of raising it to make up for silting of the bed;

removal of silt is out of this question, but something can be done to arrest the further silting. I am told that in Mysore churning wheels are installed near the sluices to drive out the silt as for instance at Mariakanama. I do not know how far this is correct or feasible, but the suggestion is worth pursuing;

(v) As a consequential change to consider if the surplus weir should or could be raised;

(vi) to examine the position of the sluices and see if any change either in location or size is necessary; and finally

(vii) to fix the ayacut in the light of the action taken on the above points.

14. A thorough overhaul of the sources on these lines is overdue. I suggest that it should be undertaken immediately and completed within three or four years, starting with say two taluks in each district which are most liable to famine and then gradually extending operations to the more and more favoured taluks. There is one other important fact prejudicially affecting the sources lying along the border of the Mysore State; this applies to all sources, both minor and major. It is alleged that the agreements with Mysore State have been broken in spirit or by-passed by the State and the waters that should flow down are intercepted by expansion of irrigation works in the border regions of the State. Several of the tanks in this Province have suffered in consequence. Parigi tank and the connected chain of tanks of Anantapur district is quoted as an outstanding instance. They have an ayacut of 6,156 acres but they now irrigate only 1,723 acres. The Government are now undertaking the Pennar-Kumudavati Project at a cost of Rs. 17 lakhs in the hope of increasing the irrigable area from 1,725 to 4,855 acres. Investigation should be undertaken immediately to assess the losses if any to the irrigation sources in the Province by the action of the Mysore Government and negotiations started with that Government for securing some reparation for past damage and a revision of the agreements, to prevent harm in future to sources along our border. This, I submit, is important to the irrigation sources on this side as their repairs.

15 According to the latest information available, the number of minor irrigation sources in the tract are—

District	Number of tanks	Number of all sources (ie channels etc.)	Area irrigated ACS
1 Cuddapah	1 120	1 650	81 151
2 Anantapur	1 023	2 406	116 007
3 Bellary	234	393	24 175
4 Kalyan	575	512	39 775
5 Chittoor	393	4 971	109 411
Total	6 755	11 012	364 490

Assuming that on an average, Rs 50 an acre will be required for the thorough overhaul suggested above the expenditure involved works out to about Rs 1,09,34,700. Considering the productive as well as the protective value of the works, I submit this is not a heavy outlay and is well worthwhile.

16 The net area cultivated in Rayalaseema is about 7,841,500 acres and the minor irrigation sources serve 364 490 acres—an extent large enough by itself but it forms only 4.7 per cent of the cultivated area. The net area irrigated by all sources in Rayalaseema is 794,870 acres—little over 10 per cent of the cultivated area. The poverty of the tract and its liability to famine obviously require that a much larger protection should be afforded by irrigation works. The people of Rayalaseema have become irrigation conscious and keenly desire the early execution of all conceivable irrigation projects. They have, in particular, set their hearts on the following major schemes—

Tellur district—The Tungabhadra Project Low-Level Channel Scheme—This is under execution and according to the latest forecast is estimated to cost Rs 17 crores. The excavation of the foundations for the dam is nearing completion and the masonry construction is expected to begin shortly. If all goes well, the dam should be ready in 1951 and water be available for irrigation early in 1952. The Special Officer (Mr T. N. S. Raghavan) submitted four special reports dealing with the problems connected with the development of irrigation in January 1946. No final orders had been passed on any of them. After I took charge in November I took up the report regarding the cropping scheme on which the other reports hang and consulted the officers of the concerned departments. The Hon'ble the Minister for Rayalaseema Development, the Hon'ble the Minister for Agriculture and the Hon'ble the Minister for Finance held a conference at Srirangapatnam on the 23rd December 1947 and the orders of the Government on the cropping scheme were issued early in January. I am mentioning these details as an instance of the great need for co-ordination by the Special Officer working directly under the Government, if endless correspondence is to be avoided and early decisions are to be taken. Considerable time has been lost already and if the tract is to get ready to use water as soon as it becomes available, urgent action has to be taken on the other suggestions of Mr Raghavan.

The area served by the low-level channel is not the one most subject to famine. The execution of the high-level channel is very necessary for serving the taluks where famine is chronic. This depends on the final settlement with Hyderabad regarding the sharing of the Tungabhadra waters. The present time is perhaps not propitious for negotiations with Hyderabad on such matters but they should be started as soon as circumstances permit.

Anantapur district.—(1) *Pennar-Kumudavati Project* serving Hindupur taluk estimated to cost Rs 17 lakhs. I have already referred to this project in paragraph 5 (c) above. The people are extremely keen on this project and it is hoped that nothing will happen to prevent its being started in 1948.

(2) *Upper Pennar Project*—The rough cost of the project is Rs. 75 lakhs. Investigation is completed and the scheme is likely to come up to the Government shortly for sanction. This project serves a part of Dharmavaram taluk, one of the poorest areas in the district. There was failure of crops in some villages even in this year of comparative plenty in the district. The early execution of this project is as urgent as the Pennar-Kumudavati Project if not more.

(3) *Mid-Pennar Project.*—The probable cost is Rs. 60 lakhs and the area likely to be benefited is 8,000 acres in Uravakonda sub-taluk and Anantapur taluk where failure of rain is fairly frequent. This is under investigation.

(4) *Bhairavani Thippa Project* is expected to serve about 5,000 acres in Rayadurg of Bellary and Kalvandrug of Anantapur district, both very poor areas, at an estimated cost of Rs 37,50,000. Investigation has to be pushed on vigorously.

Cuddapah district.—(1) *Gandikota Project*—The people of Cuddapah district are keen on this project and resent its being linked up with the Krishna-Pennar Project. It is expected to benefit 1 lakh of acres at an estimated cost of Rs. 4 crores of which one

crore is accounted for by the diversion of the Madras and Southern Mahratta Railway. Investigation is in rapid progress

(2) *Lower Sagileru Project* in Badvel taluk to improve the supply to seven irrigation tanks. The people of the locality are moving heaven and earth to get this project sanctioned. The probable cost is Rs. 16 lakhs and the estimated ayacut is 5,000 acres. Examination is nearing completion.

Kurnool district—Krisna-Pennar Project—The area likely to be irrigated is estimated as $4\frac{1}{2}$ million acres in the districts of Kurnool, Cuddapah, Nellore, Chingleput and South Arcot. The latest estimate is Rs. 78 crores approximately. The Government have directed early investigation of this project and a Special Executive Engineer posted for the purpose has just joined duty. There are insistent representations that the investigation of this project should be completed in the shortest time possible by the appointment of some more extra staff.

I have not heard of any similar major schemes in Chittoor district.

17. The total cost of the projects works out approximately to Rs. 107 crores. Deducting Rs. 50 crores as representing the share of the Sangameswaram Project on account of extension to Nellore, Chingleput and South Arcot districts, the cost of the major irrigation works in the districts of Bellary, Anantapur, Cuddapah and Kurnool is approximately Rs. 75 crores. These projects will have to be executed at some time or other and until they are constructed there will be no peace for the administration in the land. But they will all take time to mature and develop fully. In the meantime, the people must live without the fear of recurring famines and the needs of the growing population have to be met. The Chief Engineer (Irrigation) had kindly furnished me with a list of 50 other schemes included in the Grow More Food Five-year Programme and the Revised Programme for expansion on which the outlay from 1947-48 to 1956-57 is estimated at about Rs. 2 crores and which are expected to irrigate 17,000 acres. As these schemes are likely to give quicker results speedy action on them is very necessary and very desirable.

But for one reason or other the schemes are getting held up. Out of the 25 schemes put down for 1947-48 only eleven works costing from Rs. 150 to Rs. 2,500 have been sanctioned and work is proceeding. The reclamation of the lagoons at the 56th mile of the Kurnool-Cuddapah canal was sanctioned in November 1947 at a cost of Rs. 6,24,000. The local officers have not applied for the extra staff required. The estimate for Rupees 9,15,000 for a reservoir across the Kollamakulavagu near Panyam sent by the Chief Engineer in November 1946 is pending with the Board of Revenue awaiting Collector's reports regarding the willingness of the ryots to pay the proposed water-rate. The estimate for Rs. 2,20,000 for the formation of a reservoir across the Tigalur at Egulachalapalli was sent up by the Board of Revenue for sanction on 18th December 1947. Other schemes are under correspondence. Consideration of the schemes put down for 1948-49 has not made any appreciable progress and it is well known that the summer months is the best part of the year for construction.

The present tendency is for the ryots to aspire for some irrigation work or reservoir in every part of each taluk, and they are continuously sending in suggestions either for the restoration of old works or construction of new ones. I am compiling a list of them for examination in due course by competent authorities. Some may drop out but some may prove acceptable. On a rough guess, I expect another two crores would cover these suggestions.

18. Wells play a very useful part as supplement to minor irrigation sources and otherwise. They also provide drinking water for men and cattle. I have already referred to the ability of Coimbatore, Salem and North Arcot districts to withstand better the failure of a monsoon because of the large number of wells in them. The number of wells in Rayalaseema according to the Season and Crop Report, 1945-46 is given below —

	Name of the district					Government wells	Private wells
Kurnool	447	4,841
Bellary	118	4,390
Anantapur	411	28,274
Cuddapah	1,194	27,148
Chittoor	1,008	32,428

Well irrigation is well established in Chittoor and Cuddapah districts and is getting popular in Anantapur. The several subsidy schemes have not been successful in stimulating interest in them in Bellary and Kurnool evidently because of the predominating black soil.

I give below the particulars for Kurnool district :—

				Number of wells which sub id - is granted.	Number of wells completed.
(1) Old schemes of 1914	..	..	..	190	92
(2) Accelerated scheme	{ New	..	..	378	67
	{ Old	..	..	401	253
(3) Ceded districts modi- fied scheme	{ New	..	..	188	2
	{ Old	..	..	93	37
(4) New scheme	..	..	..	571	..

It is very expensive to sink well in a black-soil soil and the chances of tapping sweet water springs are slender. But there is good scope for them along the banks of the streams and in red soils. The existing subsidy schemes may continue so long as they remain in force in the rest of the Province. But a special effort on the part of the Government is called for in the districts of Kurnool, Bellary and to a lesser extent in Anantapur specially in the taluks liable to failure of rainfall giving preference to villages which have no other irrigation sources.

19. It is expected that a new circle for Geological Engineering for examining the water-supply problems will be formed soon. When it is formed, the circle should be requested to take up first the survey of the districts I have mentioned above. If there should be any delay, the Government may appoint a Specialist of their own and in the light of his advice sink Government wells in suitable places. A target of 200 wells capable of irrigating 5 acres each in each district every year for a period of five years may be fixed. There will be at the end of the period 3,000 wells irrigating 15,000 acres—no mean contribution to famine prevention. If a few power drills are secured, sinking of wells need not be the tedious and slow business it is now. Each well on an average may cost Rs. 2,000 and the outlay required is Rs. 60 lakhs. The Government may charge appropriate **water charge, which may cover the interest charges and the cost of maintenance.** If no Government land is available for the purpose sites suitable may be acquired. There are good **springs at the foot of the hills** particularly the Nellimalais and artesian wells are likely to be successful. The Director of Industries may be asked to make a trial immediately and if the result is promising, construction of such wells may be undertaken. I wish in this connexion to mention the Ganges Valley Tube-well Irrigation Scheme in the United Provinces which now comprises about 1,700 tube-wells of which 1,300 were installed during 1935-37, and some 700,000 acres are irrigated in years of average rainfall. A feature of the scheme is that water is sold to the cultivator on a volumetric basis enabling him to co-ordinate his requirements for tube-well water with rainfall. The adoption of a similar scheme in Rayalaseema may be considered. The Government of India have an expert staff and special plant. I learn they are willing to assist provinces which desire to go in for such schemes.

The use of wells for irrigation is limited by the number of pumps available. Diesel oil to work them till electricity is supplied and a maintenance plant near at hand to effect the repairs. There is a great demand for pumps for the existing wells, specially as bulls have become costly and it has not been found possible to meet even a part of it. But the situation should gradually ease.

20. The ultimate irrigation bill may thus be put at—

Description.	Cost. RS. (IN LAKHS).	Area to be benefited. ACS.
(1) Renovation of minor irrigation sources ..	1,10	364,490
(2) Wells	60	15,000
(3) Tungabhadra Project low and high level channels	23,00	300,000
(4) Projects in Anantapur district	1,90	26,200
(5) Projects in Cuddapah district	4,6	105,000
(6) Krishna-Pannar Project	48,00	750,000 (approximate).
(7) Other small schemes on the Chief Engineer's list	2,00	47,000
(8) Additional suggestions by ryots	2,00	50,000
Total ..	82,76	1,657,690

The extent irrigated under other existing sources is 430,380 acres. When all the schemes and projects discussed above are executed the total irrigated area will be about 8,088,070 acres, which represents about 27 per cent of the net cultivated extent. This seems to be the utmost limit of expansion of irrigation possible as far as can be judged at present. When this limit is reached the tract, it is hoped, will cease to be liable to be

subject to frequent famines and also contribute to the agricultural wealth of the Province. It will take at least three decades for this dream to be realized; but in the meantime several changes and facilities are necessary to quicken up the present depressingly slow rate of progress.

(a) An irrigation law is urgently necessary to provide for the following:—

(i) the classification of lands likely to be irrigated compulsorily into wet and irrigated dry;

(ii) the collection of the appropriate water-cess on the irrigable lands according to their classification, irrespective of whether water is taken or not;

(iii) compulsory acquisition as dry of lands not made fit for irrigation within a prescribed period of say ten years from the date irrigation starts under the project;

(iv) enforcing the prescribed rotation of crops; and

(v) empowering officers to regulate distribution of water irrespective of other rights in times of scarcity.

(b) Kudimaramath has become obsolete owing to the disappearance of the village community spirit and should go. At present, it simply hampers progress, as I have shown above in the case of Chinnatekkur tank in Kurnool district. Instead, a small cess, say at the rate of one anna a rupee on the water charge, may be collected and constituted into a separate fund. The works which are now deemed kudimaramath may be executed periodically and the cost met out of this fund. Almost all ryots to whom I spoke on this point welcome this change. Pending the enactment of the necessary legislation, some administrative action can be taken even now to improve matters. The kudimaramath items are uniform and a standard estimate can be prepared for each source in advance and kept ready. Every April, a notice may be served as a matter of routine on the holders of ayacut lands to execute the customary repairs within a month. If ryots have a mind to discharge their obligation, they will have the necessary leisure to do so in April and May; if they fail as they generally will, the work should be executed at Government cost out of an advance fund and recovered in due course. This requires constant vigilance and promptness on the part of the local officers; and it should be the work of supervising officers to ensure this is forthcoming.

(c) The system of calling for tenders which is obligatory particularly in the Public Works Department is responsible for considerable delay and does not always secure men who are interested in the sources and anxious to turn out a good job. This system should be kept in abeyance at least for ten years during which the urgent programmes are in operation. An appropriate schedule of rates for each taluk or other convenient unit should be drawn up and revised once a year. The Executive Engineer and the Subdivisional Officer should be allowed discretion to choose a suitable contractor, preference as far as possible being given to local men owning lands under the sources. It should be the duty of the Revenue Officers to secure contractors if the Public Works Department staff needs help in this direction. As an instance, I wish to mention the instance of the Markapur tank (1,701 acres) in Kurnool district. The supply channel was in disrepair and the successful raising of the first crop was doubtful. Contractors were unwilling to take up the work at the rates allowed in the estimate as wages for labour were higher because of the slate industry. The Revenue Divisional Officer persuaded a few leading landlords to take up the work for the sanctioned amount and bear the extra amount, if any, themselves. The result is that not only was the first crop raised but there is water in the tank for a second crop on almost the interior ayacut.

(d) The Engineering staff requires transport facilities which are reasonable and must be provided if execution is not to drag on indefinitely. Communications in the tract are poor and even important places in taluks are not connected by road or rail. The tract is for the most part hilly and even bullock carts find it difficult to ply. The irrigation sources are situated in out-of-the-way places often amidst hills, the villages are scattered and distant from one another and very often they are small with no place at all for a night halt. An Engineer has to spend almost the whole of his time travelling. These conditions are special to the tract, and more in the interest of speedy execution of the Government works rather than the officers themselves. I plead that an exception be made and all Assistant Engineers, Executive Engineers and the Superintending Engineers be provided with a jeep each. About 24 jeeps may be required in all and the cost may be Rs. 84,000, which considering the amount of work to be done and the money proposed to be spent on execution of works running to crores is, I submit, insignificant. The best working season is the dry months and the Engineering staff has to make the most of it and officers cannot be reasonably found fault with if they show most of the time as having been spent in reaching the work-spots.

(e) Technical personnel is likely to prove the most troublesome bottle-neck. There is increased activity all over the Province in response to the demand for more irrigation works and there are not enough trained men to go round. Several sanctioned posts of

supervisors are, I know, kept vacant in the Tungabhadra Project works and the regular divisions. I must plead for priority in the distribution of available staff till more hands become available on the ground that a poor and backward tract must first be served before the comparatively rich tracts are made richer. If famines were unfortunately to come, I dare say that all the extra staff for famine works will be found and the same priority should, I submit, be given for measures intended to prevent famine. I, therefore, venture to suggest that, as an earnest of goodwill, works in other areas be slowed down to the extent necessary to meet first the needs of Rayalaseema. The Chief Engineer may be given suitable instructions in this regard.

For the same reasons, I suggest that priority be given in the distribution of cement and iron and steel and such other materials. There was a definite shortage last year and one Executive Engineer told me he had to put off some urgent works for want of cement.

(f) The officers of technical departments, particularly Engineering, are mostly men from other parts of the Province, largely from the southern districts. They, particularly the subordinate staff, do not settle down to work contentedly and count the days of their sojourn in the Rayalaseema and small blame to them for this state of mind. Most of the Rayalaseema is malarial and it takes them time to acclimatise themselves, if ever. I was told that about 150 men of all ranks died of malaria when the Chinnatekkur project was under execution. Their parents or near relations live in distant places and a trip to visit a sick relation or attend a social function eats up the savings of some months. The education of their children suffers because the medium of instruction is different and they cannot afford to maintain a second family in their own places. The obvious remedy is to produce more Engineers from the people of the locality. The parents are poor and very few can stand the expense of sending their boys to distant cities for a long and costly course in the Engineering College. The Government have been pleased to sanction an Engineering College for the Rayalaseema but for one reason or other the transfer of the college to Anantapur is taking time. An estimate for Rs. 3.5 lakhs for the structural alterations to the dehydration factory buildings bought from the Government of India to render it suitable for use as a college has been since sanctioned. The Principal, Engineering College, has sent up an application for equipment worth Rs. 6 lakhs. Some of it is from Calcutta and is on the way. The Government may be pleased to allot the requisite funds immediately so that the transfer may be effected in the new educational year 1948-49. Besides the direct benefits the existence of college has, I need hardly point out, a great effect in improving the cultural outlook of the people in general.

21. To cope effectively with the expanded activities suggested by me, enlargement of the Public Works Department staff is indispensable. There are now three Executive Engineers—one at Kurnool with three subdivisions, one at Bellary with three subdivisions and one at Madanapalle with two subdivisions, eight subdivisions in all. There is one Special Investigation division in charge of an Executive Engineer with four subdivisions. The public as well as Government departments consider and consider rightly that there should be an Executive Engineer for each district. The jurisdiction of the subdivisions should coincide with the revenue subdivisions of which there are thirteen. I have suggested one investigation subdivision for minor irrigation sources for each district or five subdivisions bringing the total to 18. As a layman, I speak with diffidence but I consider that for investigation of local projects, a special staff lacking local knowledge and local contacts is no great convenience. The present special division and its subdivisions may, I think, be merged with the regular staff. In the result, one more division and six subdivisions will be required. The extra cost of a subdivision with the necessary complement of staff is Rs. 24,018 per annum and of a subdivision with full complement is Rs. 12,066 and for six subdivisions Rs. 72,396, about a lakh of rupees in all. The minor irrigation staff in each taluk will work under the concerned subdivision officer; the supervisor will be attached to the Executive Engineer or the post may be kept in abeyance. For investigation or execution of big projects like the Tungabhadra Project, a special agency will have to be employed; but the cost will be debited to the project. The employment of staff may take place gradually as the execution of work gathers pace. I have given an outline of the re-organization at its full strength, as I visualize it; the Chief Engineer may suggest modification in detail. But unless there is an immediate increase in the staff and the personnel found by priority, development of irrigation will be distressingly slow.

II. IMPROVEMENTS IN METHODS OF CULTIVATION.

22. I have heard some officers remark that the Rayalaseema ryot is an indolent person, too lazy to exert himself for his own living. A truer and more just estimate was made by Mr. J. C. Molony in his Census Report, 1911. He observes of the Deccan Division that "at first glance the great black plains, the aching wilderness of stone, the bare dusty roads and summer air, half dust and wholly heat, realize vividly the abomination of desolation. Without the prop of irrigation, he has learnt a sage economy of effort; his pani poddu

denotes, not so much a disinclination to work, as a recognition that it is foolish to squander industry of which the reward is not sure." The extent to which the prop of irrigation can be provided has been dealt with and as has been shown above this prop will at the best and over a long period help only 27 per cent of the cultivated area. Other props will have to be devised for making dry cultivation more certain of rewards.

23. The first that suggests itself is contour bunding which prevents erosion of the soil and conserves the rain water. This has been tried in black soils near Hagari farm on an extent of 50 acres with impressive results. The ryots are convinced of its utility and are eager for its extension. As I have mentioned already two schemes, one for bunding 2,500 acres near Hagari at an estimated cost of Rs. 2,05,200 sent by the Director of Agriculture and another for bunding 5,500 acres near Guntakal partly in Anantapur and partly in Bellary district at a cost of Rs. 3,09,400 sent by the Chief Engineer, have been held up pending legislation and pending the visit of some officers of this Government to the Bombay Province where bunding has been done on a large scale. Experiments on the various forms of bunds have been made for a sufficiently long period to justify the Madras Department of Agriculture proceeding in the light of its own experience. After all, Bombay holds no monopoly of wisdom in this or any other matter and conditions, such as rainfall, etc., vary from place to place. I therefore suggest that the schemes ready may be taken up immediately; it should not be difficult to persuade the ryots round about Hagari to agree to it in advance of legislation. The necessary legislation may be passed as soon as possible. A good portion of the outlay will be recovered from the ryots in easy instalments. There is danger in carrying on contour bunding too far as it may interfere with supplies to irrigation sources. But it has been estimated that the area to be tackled by contour bunding will be about 54 lakhs of acres. The cost varies from Rs. 50 to Rs. 80 an acre and at an average cost of Rs. 65 an acre the outlay will be Rs. 3,510 lakhs. As the scheme becomes popular, nearly three-fourths of the cost may be recovered from the ryots and the Government need spend about Rs. 880 lakhs only, spreading it over fifteen years; increasing the rate of construction from year to year. Contour bunding is estimated to increase the yield by 25 per cent.

24. While this big programme is on the way, some immediate results may be achieved by popularizing annual small bunding with the wooden bund-formers evolved at the Hagari farm. The Agricultural department seems to have been sceptical about it at the start. But recent experiments conducted on about 500 acres of ryots' lands near Hagari seem to have yielded good results and it is time to spread the knowledge widely and enable the ryots to make use of it. A unit consisting of an Agricultural Demonstrator assisted by a fieldman and five maistries can attend to 500 acres in a working season of three months in a year. The cost of the unit is Rs. 900. Initial capital equipment required is worth Rs. 300 and it will last for five years. A thousand acres in each district or 5,000 acres for five years may do for a start. The cost of the staff will be Rs. 9,000 per year and the capital equipment for five years will be Rs. 3,000. The operation may be extended gradually as the schemes become popular and the staff becomes available. It would, I gather, cost the ryot about 10 annas per acre which he need not spend if he works himself.

25. Bunding does not seem suitable for red soils. At any rate no research seems to have been made in this direction. While they are subject to erosion just as much as black soils are, they absorb rain water much more quickly; no conservation of moisture is necessary. Most irrigation sources are in red soil areas and bunding is likely to prejudice supplies to tanks. Further bunding is likely to cost more than the land itself is worth. But that erosion control measures are necessary for red soils also cannot be gainsaid. It is for the experts of the Agricultural Department to devise suitable measures. As a layman the following suggestions occur to me, as worthy of consideration. Cultivation at critical places where denudation starts from a ridge down the slope where the gully is formed should be avoided. Where little fissures or finger gullies make their first appearance in the middle of the cultivated lands ryots should be persuaded to plough along the contour instead of up and down the slopes to retain the soil in its proper place. Cultivation at and around the fissures and over steep slopes should be stopped and replaced by permanent grass. The erosion resistant and soil binding crops as well as grasses best suited to the locality have to be found out and a strip cropping system should be introduced. Terracing may be adopted wherever necessary but strip cropping according to which narrow parallel grass strips are interposed between the cultivated contour strips is easier. The system is *now* widely adopted in the United States and is worth copying.

26. Lands on the banks of some rivers need protection from the shifting sands. I have already referred to the afforestation of some portions of the banks of the rivers with excellent results. The officer to whom I spoke on the subject was not sure if this activity would be continued. I plead earnestly for its continuance till all the banks are covered. The tree growth is useful not only to protect the lands from sand drifts but also to provide

fuel for conserving dung for manure, and for small agricultural implements. It costs about Rs. 65 (sixty-five) to plant an acre and 16 acres go to a mile length, including the cost of acquisition of land where necessary about Rs. 1,500 a mile will be required. On a rough guess about 800 miles may be the length to be protected at a probable cost of Rs. 12 lakhs.

27. Patches of nuth and tunga develop in black soils periodically; and the process of reclamation is costly and tedious and the weeds are rarely rooted out. A fairly considerable extent of land is going out of cultivation on this account in Bellary district. Deep tractor ploughing has been found very useful in combating this evil. Tractors and bulldozers are also required to render large waste blocks fit for cultivation in all kinds of soils and in preparing lands for receiving irrigation. There are no fixed allotments for tractors and they are, I gather, moved according to requirements. But the requirements do not, at any rate in Rayalaseema, abate and have not been satisfied to any appreciable extent. There will be a great need for them for some years. According to the latest report there are no tractors in Anantapur district and two in each of the other districts. I consider that at least one should be stationed in each taluk for at least five years to start with. There are 45 taluks and the capital outlay at about Rs. 25,100 a tractor will amount including transport, etc., to Rs. 12 lakhs. The running and maintenance cost can be realized by charging a suitable rate for its services. The fact that the average size of a holding is very much larger than in the Province is the justification for this proposal. The average size of a holding in the Province is 4.5 acres; in Anantapur it is 9.6 acres, in Bellary 12.0 acres, in Cuddapah 3.6 acres and Kurnool 7.0 acres. The tractors can be moved about within the Rayalaseema according to the local needs. Owing to the fairly large size of the holdings there is good scope for the use of light tractors. An attempt to produce tractors of suitable power may be made. A demonstration of Fordson tractors was recently held by the Ford Agents; that might furnish a model to copy. The Hindustan Aircraft Factory may be perhaps consulted. Extensive use of mechanical appliances will mitigate the difficulties arising from the scanty population and the high price of bullocks. Ryots would be willing to purchase them provided they are moderately priced. In Australia tractors for wet cultivation also seem to have been devised; the literature on the subject may be obtained.

28. *Manures*—Ryots have been in the habit of using green leaf as manure for such wet cultivation as there is; it is usually available in the unreserves and forests. If the drive initiated by the present Director of Agriculture to grow more green leaf manure is kept up, the tract should be able to raise the additional organic manure required for the increased wet cultivation. Groundnut cake is now getting into fashion and as the tract is an important groundnut growing area, there is a strong temptation to forsake green manure in favour of cake. I suggest that this should be resisted and that the Agricultural Department should try to maintain a proper balance between the two.

Lands under dry cultivation except those near the village-sites do not get enough manure. But manuring once in four years will be enough. If the ryots could be persuaded to collect the urine in specially constructed stalls, the value of farmyard manure could be considerably enhanced. All that is necessary is to lead the urine into a trench dug at one end of the stall and fill it with earth and remove the earth once a fortnight to the manure pit. This is being done at the Nandyal Farm and Sri B. P. Sesha Reddi of Betemcherla has adopted this practice in his cattle-sheds. More propaganda will serve to extend this practice. Waste of cattle dung as fuel should be avoided. This will follow in proportion as other forms of fuel, largely from village forests proposed become available. The use of groundnut husk may also be advocated. The practice of penning cattle or a flock of sheep or goats for some days is very common; in fact this is one purpose for which large herds are maintained. Use of nightsoil collected in towns as manure has yet to spread. Necessary steps to that end need to be intensified. On the whole, I do not recommend any measures in addition to those that are being taken in regard to manure beyond intensive propaganda, on the few points I have suggested.

29. The practice of drill sowing of paddy persists in several places because the tanks receive supplies late and the ryots do not like to risk losing the proper season. A well in the tank-bed if no other source of water is available nearby and with its aid a nursery raised about a month in advance of the transplanting time should serve to end this practice. In the early stages, it may be necessary for the Government to lease a small plot of land and sink the well; some of the outlay could be recouped by the sale of the plants. When the ryots see for themselves the increased yields resulting from transplantation, they will, I trust, arrange to raise the nurseries themselves. A small sum of Rs. 10,000 a year for three or four years should be enough.

30. There is a considerable good waste land available and there is great scope for co-operative or collective farming. About 1,000 acres out of the extent intended for

the donga woddars of the Siddapuram settlement is now waste, the settlement is now on the decline and I have no doubt most of the woddars will leave when the Criminal Tribes Act is repealed. It is virgin and fertile land and owing to the proximity of forest rains do not fail. The reclamation of the lagoon of the K.C. canal on the 56th mile at a cost of Rs. 6,21,000 has been sanctioned. About 1,200 acres of excellent land with about 12 feet of silt will soon become available. It is considered very good for Horticulture and I heard that there was an offer for some of it at Rs. 4,000 an acre. If the lagoon reclamation is successful there are several more of such lagoons and about 6,000 acres can be added to the food-crop area. Here is an excellent opportunity for trying collective farming. Beyond an initial advance for equipment the chances are that the farms will pay for themselves. The Government of India have declared it as part of their agricultural policy to encourage such farming and demonstrations can be started in this locality.

31. I have already referred to the fact that a considerable area has still to be covered with improved seeds in paragraph 4 (b) above.

Determination of suitable seed and its multiplication require an adequate number of research stations. Bellary is well served by the Hagari and Snuguppa Farms. Kurnool has the Nandyal Farm which is concentrating on cholam and cotton. The results of this farm have established the negative fact that a cosmopolitan variety of yellow cholam cannot be evolved and that the Nandyal tract falls into four zones according to the soil conditions, only one variety is suitable for a zone. Again the cholam of neither Nandyal nor Hagari Farm is suitable for the northern part of Cuddapah, i.e., Proddatur and its surroundings. At least two sub-stations of the Nandyal Farm, one in Suvel and one in Proddatur or Cuddapah are necessary. Kodur is mainly a fruit farm and will not serve the miller needs of Cuddapah. A sub-station for experimenting on paddy about Kurnool or Nandikotkur is required as it is proposed to take special steps to enforce wet cultivation under the Kurnool-Cuddapah canal. Chittoor is served by the Kalahasti Farm. No research on crops on red soils has so far been conducted. Proposals for opening a farm in Anantapur district are under consideration and some land near Hindupur has tentatively been chosen. But wet land is very costly here, from 3 to 5 thousand rupees an acre, and Hindupur is at one end of the tract on the borders of Mysore. I suggest a more central place near Anantapur may be chosen. Anantapur district has no research station and is entitled to one. The tentative estimate for one is a non-recurring expenditure of Rs. 3,20,000 and a recurring expenditure of Rs. 68,000 including the cost of living allowance. The three sub-stations I have suggested may involve a non-recurring expenditure of Rs. one lakh and a recurring expenditure of Rs. 12,000.

Rayalaseema aspires for an agricultural college of its own; but this may have to wait till the future of the Bapatla College is settled and more competent teaching staff becomes available. Meantime, to satisfy the legitimate ambitions of the people, I urge that two technical high schools imparting instructions in scientific methods from the fourth to sixth forms may be started in each district. The Seva Mandir of Hindupur which is doing very good work entirely by voluntary contributions desires to impart this education and the Rev. Smith of the London Mission Society is willing to open a section in his High School at Gooty. This will serve Anantapur district adequately. Nandikotkur and Dhone seem to be suitable centres in Kurnool district. Suitable places can be selected in the other districts. Rev. Smith told me that the capital expenditure including 4 acres of land for a branch in each school with 30 students each in the 4th, 5th and 6th forms will be Rs. 10,000 and the recurring expenditure Rs. 2,054. Considering the general poverty and inability of parents to send monthly remittances to students at Bapatla or Coimbatore, I submit this facility should be provided speedily.

32. There is good scope for horticulture and several gardens are springing up. I shall however deal with this later as I consider that its scope is more commercial and I am now confining myself to the normal agricultural use to which land is put.

33. The complaint of shortage of cart-tyres and iron for various agricultural implements is common here as elsewhere; the position will ease as the supply position improves. But what will not ease and what will require some effort to resolve is the difficulty regarding the maintenance of the agricultural implements and the machinery used or is expected to be used. Now, if a pump breaks down, it has to be sent to Bombay or Vijayavada or Madras to be set right and meantime, work is held up and the season is lost to the ryot. A foundry or repair shop, by whatever name it is called, is urgently necessary. One has recently been started at Kurnool by Sri Rosi Reddi under the name of India Metal Works, he has spent about Rs. 60,000 already and is adventuring on the production of spare parts like pins for cars. All that he wants to develop is an assured supply of 10 tons of pig iron, 4 tons of hard coke and 1 ton of mild steel rods, and power as soon as the Kurnool Electric Station can supply it. A few capitalists of Guntakal of whom Sri Rayappa, M.L.A., is one, are anxious to open a factory at Guntakal, a central place for Rayalaseema, on the Kirloskar model. They are willing to raise all the capital (about ten lakhs) required and only want a regular quota of iron. Of the two tractors in Bellary district, I saw one at Hagari Farm.

during my last visit in cold storage for nearly a year since there was no one to repair it. Meantime, the driver and his assistants were getting their pay for nothing. Considering that maintenance stations are of first importance for development, agricultural and industrial, the least the Government can do is to use their good offices to secure a regular supply of at least a moiety of the requirements to the above two agencies. The Government need spend no money.

34. The lines of development suggested mean more and intensive work for the Agricultural Department and it cannot properly cope with it unless the staff is enlarged. There are now one demonstrator for each taluk, one fieldman for two firkas and two maistries for a firka. The villages, as I have already said, are distant from one another and most of the time is spent on going about. I suggest one fieldman and three maistries for each firka. The existing number of demonstrators and District Agricultural Officers may remain for the present. Each district should be split into two with two District Agricultural Officers for each as work gathers pace. The Deputy Director in charge of the Tungabhadra Project should remain as the project problems are special. Kurnool is in charge of the Guntur Deputy Director and the other districts in charge of another Deputy Director. These Deputy Directors may, I think, go and the whole tract placed under the charge of one Joint Director to secure effective supervision and proper co-ordination.

35. The probable expenditure under this head will thus be—

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|--|--|
| (1) Contour bunding over 15 years. | Rs. 3,510 lakhs (of which three-fourths will be recovered).
Cost to Government will be Rs. 8.0 lakhs. |
| (2) Small bunding on 1,000 acres a year | Annual cost, Rs. 9,000. Capital equipment, Rs. 3,000. |
| (3) Afforestation of banks of rivers. | Rs. 12 lakhs. |
| (4) Cost of 40 tractors | Rs. 2 lakhs. |
| (5) Nurseries to encourage trans-plantation. | Rs. 10,000 a year for four years. |
| (6) Research Stations | Rs. 4 20,000 non-recurring and Rs. 80,000 recurring. |
| (7) Technical High Schools 10 | Rs. 1 lakh non-recurring and Rs. 20,000 recurring. |
| (8) Cost of the extra staff | Rs. 1 lakh recurring (approximately). |

III. LIVESTOCK.

36. Good working cattle are indispensable for agriculture; the ryot of Rayalaseema realizes this fact so fully that he uses the best part of his dwelling to house them and contents himself with the little accommodation that remains for himself and his family. There are abundant forests in Rayalaseema with good pastures. Lakhs of cattle come every year from Guntur and Nellore to graze in the forests of Kurnool and Cuddapah districts; but yet the ryot has to buy his bulls from the cattle breeders in those districts. People of Anantapur and Bellary districts also buy in the Mysore State several thousands of animals for work in light red soil. Cattle breeding can be developed not only to supply the local needs but as a lucrative trade. Scarcity of cattle and the high prices now demanded for them are some of the causes retarding the Grow More Food Campaign and immediate action is necessary to remove them. The quality of the local breeds needs improvement.

37. In 1944, the Veterinary Livestock Sub-Committee for the Post-War Reconstruction General Committee set as the ultimate aim a livestock farm in each district. The Director of Veterinary Services has prepared a model scheme for a farm starting with 300 acres and 50 cows and 2 bulls, 50 ewe and 2 rams, 60 hens and cocks and 8 pairs of work cattle. The non-recurring expenditure is Rs. 3 lakhs, half of which is accounted for by the cost of land and the recurring expenditure Rs. 44,600. The Government accepted the recommendation of the Director of Veterinary Services to give high priority to the Kurnool district and have called for detailed proposals for opening the farm. A separate District Officer was appointed for Kurnool district only recently and he had no previous records to guide him. He asked the Revenue department to report the cost of about 600 acres which he thought was necessary. The Collector did not know about this; but the next day the District Agricultural Officer and the District Veterinary Officer told me that the Revenue department had intimated that the cost of acquisition would amount to about one lakh and eighty thousand rupees; the land had been valued, some at Rs. 200 and some at Rs. 600 an acre. I inspected the lands on 19th January 1948 in company with these officers as also the Revenue Divisional Officer. The technical officers were satisfied that a little over 300 acres would be enough now and the Revenue Divisional Officer, on verification of the registration statistics found that the market value ranged between 50 to 100 rupees an acre. This will bring down the cost of acquisition to less than Rs. 30,000. I am mentioning these details to show the interest evinced in matters relating to development by local officers and the want of co-ordination between them. The District Veterinary Officer has promised to send up his

proposals shortly and on their receipt, I suggest that the Government may be pleased to sanction the opening of the farm during 1948-49.

38. The Government sanctioned the opening of a combined sheep and cattle farm at Kurikuppi in Bellary district in G.O. No. 2022, dated 7th May 1947, but the farm has not started. The award for the acquisition of the lands required has been passed and the buildings are nearing completion. It is hoped that the farm will be opened in the near future.

39. The Kurnool farm will produce pedigree bulls of the Ongole variety and the Bellary farm Hallikar bulls. I urge that one more farm for Ongole bulls be opened in Cuddapah district and one more for Hallikar bulls in Anantapur district, during 1949-50 and one in Chittoor district during 1950-51. Unless action is taken soon and the number of working cattle is increased, the districts will not be able to undertake intensive cultivation particularly wet under the irrigation schemes proposed. There is abundant pasturage in Cuddapah and a suitable place in the eastern part of the district where Nellore cattle come for grazing can be chosen. As there are plenty of unreserves and forests, the cost of acquisition, which accounts for half the non-recurring expenditure, can be cut down considerably. At Siddaramapuram, about 6 miles from Anantapur, there is a plot of 900 acres of Government land where the Government hoped to form a colony for ex-servicemen. The Government have constructed 20 houses, dug a good drinking water well and six wells for irrigation which are in various stages of completion; about Rs. 60,000 have been spent on the scheme. The colony has failed and the Collector has been asked to submit proposals for the disposal of the colony properties. I strongly urge that advantage should be taken of this opportunity and the properties secured for a cattle farm. The capital expenditure will be reduced to nearly a third. The extra land may be used for nurseries, fruit or timber trees. Immediate action is necessary lest the property be disposed of otherwise.

40. The present system of subsidizing stud-bulls has not been a conspicuous success. In the whole of Markapur taluk there is only one stud-bull. One reason is that the rich ryot who ordinarily buys one does not care to be available to the villagers at all times when they bring their cattle for service; he considers it infradig. Another reason is that the bulls supplied due to climatic change or defective feeding do not rise to the occasion when and as often required. The District Boards have not the money to spare for the purchase and maintenance of stud-bulls. The proper solution is to maintain 2 or 3 stud-bulls in each firka headquarters in charge of a stockman-compounder and to widely advertise the fact in the villages around so that they may make use of them. A suitable fee for service would cover a good portion of the cost. The compounder could attend to the castration of scrub animals also.

41. The cattle farms can, by a little extension, if necessary, meet the milk needs of the adjoining towns. I suggest good milk yielding cows and a few Murrah-buffaloes be included in the livestock of the farm.

42. Sugalis are professional cattle breeders and there is a good sprinkling of them all over the hills. Within a radius of about 10 miles of Kollamakulapalli (Panyam, Kurnool district), there are about 10,000 cattle. There is a co-operative society at the Sugalimetta where three stud-bulls are supplied and maintained by the Government. The bulls are past the age of service and renewal of them is overdue. The society is doing good work on the whole, and I suggest that similar societies be formed wherever there is a cluster of thandas as at Kollamakulapalli and the same facilities be given to them. This is an important step for their reclamation and for weaning them away from crime particularly illicit distillation of arrack. A course of instruction in the principles of animal husbandry may be added to the schools for Sugali children. I make this suggestion from what I observed at the school run by the Police at Sugalimetta. The school has been in existence for over two decades. Boys are simply educated in three R's and after a time sink back into illiteracy. They learn no craft that will be useful to them in life. A cash grant is made to the parents to ensure that their children attend school regularly. This year I saw grain was being distributed instead; it is supposed to be used to feed the children properly at home. It is considered too much bother to cook and feed the children at school. There is no means of judging whether the grain is consumed by the whole family or set apart for the children.

43. Some enterprising persons are attempting to start dairy farms. Sri Nageswara Rao, a pleader of Kurnool, is organizing one at Kalwa Bugga to supply dairy products to Kurnool town. Sri Rayappa and his friends are taking steps to organize one a few miles off Guntakal to supply milk in Guntakal Junction. Such ventures should be encouraged and assistance required given.

In Hindupur taluk, near Lepakshi, cow clubs are becoming popular. A society purchases good-milk yielders and distributes them to members recovering the cost in easy

instalments. Requests for subsidies for cattle farms or dairies are also being received. Mr. B. Thimma Reddi of Penukonda taluk is one applicant. To assist such voluntary effort, the following policy may be adopted.—

The Government may agree—

(1) to lend half the cost not exceeding Rs. 2,500 free of interest repayable in ten years,

(2) provide technical and administrative staff (probably a clerk and a stockman-compounder) free for three years and undertake to bear the loss, if any, in this period and

(3) lease grazing land for a nominal sum if Government land is available.

The farm will be under the supervision of the Officer nominated by the Revenue Divisional Officer and the accounts should be subject to audit. The nearest Veterinary Officer should also periodically supervise the work. With assistance given in this manner there is a good chance of private effort being made at improving the quality of animals and the supply of milk.

IV. FORESTS.

44. The value of forests to agricultural prosperity is well known and needs no elucidation. In the Rayalaseema, except in the Reserved Forests, proper tree growth is scanty; this is reflected in the rainfall; the average per year is 24 inches for the Deccan division; it is 38.7 inches in the Circars; 43 inches in the Carnatic; 33.2 inches in the Central districts; 35 inches in the Eastern districts and 135.3 inches on the West Coast. It follows that the most important line of action is the promotion of extensive tree growth. I have already suggested the completion of afforestation of the banks of all rivers in the tract and plantations on the foreshores of tanks. The attempts made so far to make ryots grow trees on their lands have not been successful. Instead of distribution of seeds it would perhaps be better if nurseries are raised in certain selected areas and grown up plants distributed. A bonus scheme may be evolved, offering a graded remission of land revenue for a number of years depending on the successful number of trees as ryot can show out of the plants distributed to him. After the plants establish themselves and get three to five years old, no further attention will be needed and the remission may be discontinued. The plants selected should be of the variety common to the locality; else they will not thrive.

45. In fact this is one common complaint against the plantation activities of the Forest department. Margosa thrives in any soil and seems to be the most suitable variety for rocky red soils. Sri B. P. Sesha Reddi repeatedly drew my attention to their flourishing condition and asked me to compare them with the sickly growth of exotics in the forest plantations on the way to Betemcherla from Kurnool. Margosa is useful in a variety of ways; its fruit makes excellent manure. The Famine Code Revision Committee suggested that the process of denudation should be reversed and fresh afforestation should be carried out. While supporting this recommendation, I would urge that the Forest department for sometime, at any rate, do not experiment on varieties new to the locality but select indigenous species which are more likely to thrive well. Whenever unassessed or assessed waste land is available, village forests may be grown; this should be the care of the Land Development Committees.

46. The transfer of control over Panchayat Forests to the Forest department should be expedited. One Collector asked me why this important change is taking such a long time to come into effect.

47. I have proposed the adoption of the strip cropping system to prevent erosion, particularly on red soils. I suggest that the Forest department should take up immediately the question of selecting the suitable kinds of grass for the different soils and providing the seeds or nurseries for wide distribution.

48. Avaram is getting more important, both for use as green manure and for tanning, and the demands for both are increasing. The Famine Code Revision Committee suggested that avaram cultivation should be extended. The Forest department then took the view that the work may be left to the Forest panchayats and the Government dropped the idea of increasing avaram growth in the forests. In view of the present importance of avaram, I trust the department will now take necessary steps to promote its growth in its forests; I would urge that it should do so.

In this section, I have confined myself to the help required from the forests for cultivation of land. I shall deal with other aspects of the utilization of forests in the later part of my report.

V. POWER DEVELOPMENT.

49. The convenience and benefits which electricity affords for expansion of agriculture, large and small-scale industries in rural and urban areas are being increasingly recognized even by the villagers. The prevailing feeling in Rayalaseema is that its

interests have been neglected in this as in most other matters. The total number of towns and villages supplied with electrical energy by the Government Power System and by the licensees up to 1946-47 in the Province was 1,104. The number of towns and villages served in the districts of Bellary, Anantapur, Cuddapah and Kurnool is nine only. The following is the list :—

Towns and villages					Own or electricity under taking.
Anantapur	..	..	..	..	Municipality.
Hospet			..	..	Do.
Bellary	..	..		..	Do.
Hindupur		..	..	..	Do.
Kurnool	..	..	..	..	Do.
Adoni	..	..	..	..	Private company.
Cuddapah town and Ramannapalli (village)..				..	Do.
Proddatur		..	..	..	Do.

50. The services rendered by these licensees have, generally, been unsatisfactory. To improve the supply position at some of these places, the Government have ordered or are considering taking over the undertakings by the Electricity Department. The Government have sanctioned an estimate for Rs. 4.94 lakhs initially rising to 9.76 lakhs in ten years for acquiring the Hindupur undertaking and for purchasing hydro-electric power in bulk from the Mysore Government and distributing it in and around Hindupur. The Government took over the undertaking from the Kurnool Municipality on 1st October 1947 and has considerably improved local supply. The estimated cost is Rs. 4.95 lakhs initially rising up to 11.1 lakhs of rupees in five years. In view of the possible industrial demand, a scheme for establishing a thermal station of 5,000 K.W. capacity is under consideration. The acquisition of the undertakings in Proddatur and Anantapur is also under consideration. The purchase of the Cuddapah system has since been ordered. Its transfer should be effected immediately as the pumping plant for the town water-supply is worked by electricity and it is failing constantly. The supply was restored at Hospet with two second-hand engines acquired in Travancore. I suggest that all the undertakings should be taken over as the present licensees are either not giving satisfactory supply or giving current only for limited hours.

51. The districts of Bellary, Anantapur, Cuddapah and Kurnool are to receive their permanent supply of electric power from the Tungabhadra Hydro-Power Station by about 1952. It was originally proposed that a thermal generating station should be opened at Hagari to supply power to the project and in the Bellary area and to switch it on to the Tungabhadra Hydro Station when it was ready. It was since found that the Mysore Government were in a position to sell power in bulk from their Jog Hydro Station. The Government have decided to proceed with this purchase and have sanctioned an estimate for Rs. 50 lakhs. Transmission lines will be constructed therefrom to the Tungabhadra dam, Hospet, Bellary, Guntakal, Adoni, etc. Work on this scheme has commenced and is expected to be completed about the end of 1948. Gooty, Kurnool and Anantapur will not be benefited in this scheme. Proposals are under investigation for establishing steam electric stations near Kurnool and Cuddapah (Kamalapuram) for the benefit of areas not readily reached by the Tungabhadra Hydro Electric Project. Investigation may be expedited and priority may be given in the matter of construction. Each station is expected to cost a crore of rupees. Chittoor district is already receiving hydro-electric supply from the Mettur System. A scheme for extension of supply to Madanapalle is under consideration. The scheme is roughly estimated to cost Rs. 14 lakhs. As all the electric schemes are capital expenditure to be met from loans funds, want of money should not be allowed to stand in the way of the execution of these schemes. Pending major schemes the possibility of giving extensions from existing sources to important places like Tadpatri and Nandyal may be examined.

52. People of Rayalaseema feel sore rightly or wrongly that areas already developed are being given additional supplies to meet the increased demands, while they are asked to wait for their minimum essential requirements. There may not be immediate demand for power or certainly of good return in Rayalaseema as in other areas; but that extension of power will accelerate the development of this tract admits of no doubt. I plead that the prospects should not be judged by the present conditions and even if the schemes are less attractive than others they should be taken up and all possible priority given in execution. Even on humanitarian grounds, some preference is due as several rural areas have no potable water, and no prospects of tapping it; and their only hope is pumping installations from the nearest streams. I feel sure that in course of time all the schemes will prove abundantly remunerative as there is plenty of scope for industries owing to the abundance of cotton, oil-seeds and minerals: indeed without electricity, mining and allied industries may not come into existence at all as there is no coal nearby.

VI. REORGANIZATION OF ADMINISTRATIVE MACHINERY.

53. Rayalaseema is poor and backward in every direction. This is forcibly drawn to the notice of the Government once in four years by the occurrence of famine of mild or severe intensity. Before people recover from one famine they are plunged into another. They did not get any appreciable share of the war prosperity because of a famine in 1942-1943 which was of unusually long duration and very severe in recent memory. The Famine Code Revision Committee appointed in 1938 recommended that the State should not confine itself to preventing dearth but adopt a bolder policy of action to prevent further famines. It suggested action on certain lines and proposed the constitution of a special agency to plan and co-ordinate the activities of the several departments and watch the progress. In the section, "*Preliminary survey*" I have referred to the recommendations and indicated briefly the action taken on them. Attempts at improvement were dilatory and half-hearted and schemes were dropped at the first difficulty encountered.

54. Minor irrigation sources remain as they were if they have not deteriorated further; progress in well-sinking is poor and the Government have not dug any wells themselves. Of the projects referred to, only the Tungabhadra Project has been started, but it is a truncated scheme and does not serve the area most liable to famine. The Special Officer for the Tungabhadra Project submitted four special reports on the problems connected with the development of irrigation under the Project in January 1946. Action necessary on them has yet to be taken. Orders on the first report relating to the Cropping Scheme was passed only in January 1948 after I arranged for joint discussions and a conference of some Hon'ble Ministers to reconcile the different points of view. The reorganization of irrigation under the Kurnool-Cuddapah canal has yet to be effected. A special report was submitted by the Special Revenue Officer in November 1946 but the plans connected moved from the office of the Board of Revenue to the Chief Engineer only in the last week of December 1947 when I looked into the matter. Nor has there been any tangible improvement on the industrial side. No new factories, textiles or sugar mill have come into existence, no doubt partly due to the war. The State cannot claim to have taken any active interest in raising the necessary capital and in securing efficient management and working. The slate industry in Markapur continues in its wasteful and primitive state. Lacking in ready capital and industrial experience, the Rayalaseema cannot make any headway in the fierce competitive world without special and appreciable State aid.

55. The tale is the same in the matter of Grow More Food Schemes initiated during the war or the post-war development schemes. The share of the Rayalaseema in the irrigation works so far sanctioned or under execution is only 17 per cent and the extent that is expected to be irrigated is only 6 per cent of the Provincial total. Even this 6 per cent is not being reached. I have dealt with four instances, in detail—

Chinnatchukur tank.—The supply has to be proved and the weir wall built, the distributary channel which has silted heavily and is choked up with tree-growth needs clearance.

Gargeyapuram reservoir.—Surplus discharge flows over the ayacut and crops are submerged and lands covered with gravel and silt.

Gazulapalli tank.—Local disputes among the ayacutdars.

Vogur and Vakkamada channels.—Distributing channels are not ready and the channel was silted up by floods and the head sluice was also washed away owing to phenomenal floods. Irrigation will not develop by the mere execution of engineering works as is proved by the Cauvery-Mettur Project. Close watch and intense supervision are necessary as also an appreciation of the ryots' difficulties and a desire to resolve them. I have also shown that out of the works listed for execution during 1947-48 in the Five-year Programme, the more important have yet to be taken up; discussion and correspondence between various officers is still proceeding and the year is over. The Government concluded a deal with the Government of India for the purchase of the dehydration factory building at Anantapur for the location of the Engineering College about the middle of last year but the alterations to the buildings to suit the needs of a college have been started only recently. I am trying to trace the stage at which the opening of a Technological College at Bellary stands.

The agreement with Mysore for the purchase of power for Hindupur has not yet been executed. Negotiations with Mysore in regard to some projects proposed for Anantapur district and in regard to the interception of supplies to sources along the borders in this Province have yet to be started. The cattle farm sanctioned in Bellary district has yet to be opened and the opening of one in Kurnool district is still under correspondence. At the rate at which things are moving at present, it will take a very long time indeed for the schemes to materialize into action and some may get lost in the process of consideration and correspondence.

56. The Ceded Districts Economic Development Board was set up as the special agency for development on the lines suggested by the Famine Code Revision Committee.

It has not been able to achieve much and is inherently incapable of producing results. It is only an advisory body with no executive powers and has no funds at its disposal. A reorganization of the administrative machinery is of fundamental importance. The Tennessee Valley Authority has set the model and the Government of India have copied it in their Damodar Vally Project. But as no extra-provincial considerations are involved in the development of Rayalaseema, no legislation is necessary to bring into being a suitable agency. Executive orders will be enough. The details I have given above show that close watch is necessary at every stage from the initiation of proposals to piloting them and getting them executed down to watching that the expected benefits do accrue. Quite recently the Government of India have realized that this is necessary in the Landling of the refugees' problem and have set up a Development Board with Rs. 10 crores by way of funds and ample powers to use them. In the light of these instances, I make the following suggestions for setting up suitable agencies for development :—

(a) The present Ceded Districts Economic Development Board may be abolished and " the Rayalaseema Development Board " may be formed to function at the level of the Government. It may consist of the following members :—

The Hon'ble Minister for Rayalaseema Development and Industries (Chairman).

The Hon'ble Ministers for Agriculture, Irrigation and Finance.

One Member of either Houses of Legislature nominated by the Chairman from each of the five districts.

Not more than three members of the public nominated by the Chairman to secure the assistance of experts in Finance and Industries or persons specially interested in the welfare of the area.

The Development Commissioner who will act as Secretary of this Board.

The Board may invite the Heads of the Departments, e.g., of Agriculture, Veterinary, Industries, Co-operation, Forests, Public Health, Engineering, Highways, for consultation when necessary. A sum of Rs. 5 lakhs per year may be placed at the disposal of the Board with power to grant up to Rs. 5,000 in each individual case to enable it to assist small or special schemes in particular areas of which it approves. The Board will consider the proposals initiated by the Development Commissioner or its members or schemes sent up by Heads of Departments and make its recommendations to the Government. The schemes sponsored by the Board which has 4 Ministers in charge of Development subjects as its members should not encounter any difficulty in being passed by the Government. An annual report of the work done by the Board and the manner in which the grant of Rs. 5 lakhs is spent will be submitted to the Government, who after scrutiny will place it on the table of the House.

(b) A separate Development Commissioner should be appointed to initiate plans and to co-ordinate the activities of the various departments and to supervise execution. His pay and status should be high so that he may deal with Heads of Departments on an equal level and be in a position to control the district staff including the Collectors. He will also be ex-officio Secretary to Government and issue orders in that capacity when Government sanction is necessary. All the district and regional officers will be subject to his authority in matters relating to development.

The District Collector will be the single authority for execution of all development schemes. The district heads of various development departments—Agriculture, Forests, Engineering, Co-operation, Veterinary, Industries will work under his control.

(c) The Rayalaseema Land Development Committee should be set up with the Development Commissioner as Chairman, the Superintending Engineer and the Joint Director of Agriculture as members of the Executive Body jointly and severally responsible for the initiation and execution of schemes. They will meet at least once in two months if not oftener, discuss and initiate proposals and get progress reports and take such action as is necessary to put the programmes decided upon into operation. The Committee may co-opt the Conservator of Forests and the Joint Registrar of Co-operative Societies for consideration of specific questions. These Officers of the technical departments will consult the Heads of these Departments on technical matters and take their instructions. The Heads of Departments may also inspect when they can, but this should not detract from the responsibility of the Committee for development.

At the district level, the District Land Development Committee will consist of the Collector as Chairman and the Executive Engineer, District Agricultural Officer, District Veterinary Officer and the District Forest Officer as members. The present dilatory methods of endless correspondence and relying on subordinates for reports should cease. The constitution of the committees suggested will compel officers to get together, discuss

and come to some agreed conclusions. The responsibility for execution in each district will rest on this Committee and it should meet at least once a month. There should be similarly a divisional committee for each revenue division with representatives from the same departments and Revenue Divisional Officer as Chairman with similar duties and responsibilities. The Chairman of the Divisional Development Committee may co-opt one cultivator interested in land development for each taluk for easing local difficulties that may crop up. Unless and until responsibility is pinned down in this way, action will not be speeded up and each department will try to pass on the blame to the next for delay or inaction. The present District Committees may be used as advisory bodies by the Collectors.

(d) Last, but perhaps the most important, is the question of funds. Finance is the formidable rock on which many schemes will founder. If the premises that the tract is backward frequently liable to famine and that special measures are necessary for its improvement are accepted, it follows that there should be definite and steady provision of funds free from the vicissitudes of the annual budgets. A block grant has been suggested and I advocate it. Indeed, unless some provision of this sort is made, I am afraid all discussion of progress will be futile. Measures can be devised to avoid erosion of financial control by the Finance Department and the Legislature. The fund may be placed at the disposal of the Development Commissioner; he, with the assistance of the members of his Executive Committee, will allocate it quarterly to the districts for the expenditure on approved schemes, and obtain the approval of the Hon'ble Minister for this distribution. The distribution statement will be placed before the Board at its meeting for discussion and modification. A half-yearly statement may be placed on the table of the two houses for information and consideration. The Development Commissioner will have the powers of sanction of the Board of Revenue, the Superintending Engineer and Joint Director of Agriculture and other officers will continue to exercise their present powers of sanction. Drawing of bills, accounting and audit will continue on the existing lines. Where the sanction of Government is necessary, the Development Commissioner will obtain it from the Hon'ble Ministers concerned after circulation to Finance. It should not be necessary to circulate to the other departments concerned unless he considers it necessary. Proposals need not go before the Standing Finance Committee again as funds will have been already allotted. Further details can be worked out as and when necessary.

57. I am aware, somewhat painfully that these proposals cut across existing arrangements and impinge on certain privileges. But I firmly believe in them and request that they may be given a trial for 3 to 5 years. I suggest a fairly long period to allow a reasonable time for the organization to establish itself and function and to obviate the depressing effect of uncertainty of the future.

58. I have indicated the approximate cost of the proposals under each section of Land Development. It is for the Government to decide on the size of the fund. I suggest that a start may be made with five crores of rupees to be spent on land development only during a period of five to ten years on schemes special to the tract, that is, schemes which are not now contemplated in other parts of the Province, the period may be extended later if necessary, but the allotment should not lapse. I shall submit a separate application for development in other directions when my proposals are ready.

59. I show in the appendix below details and cost of the staff required by the Development Commissioner, as far as I can estimate at present. Further additions may be made as and when necessary. The consolidated pay of the Development Commissioner has been put at Rs. 2,150—2,200—2,350 corresponding to the present pay of a senior Collector. As this is fairly high no special pay is proposed for the special responsibility as ex-officio Secretary to Government. The staff of the Ceded Districts Economic Development Board's office consisting of one Deputy Collector, three clerks and three peons, costing about Rs. 1,200 may be disbanded. The Superintendent and an Upper Division Clerk in the Secretariat, cost about Rs. 400 a month, engaged on the preparation of a monograph may be merged in the above staff proposed for the Development Commissioner. His headquarters may be at Madras for the present; after the organization is well established, and necessary accommodation found, he and his staff may move to Anantapur. Taking Chittoor also into account, Anantapur is more central than any other district headquarters. The Superintending Engineer of the circle is already stationed there.

60. Lastly, I suggested that the Government may be pleased to order that the use of the expression "Ceded Districts" be discontinued and Rayalaseema used instead. The former term has unpleasant associations connected with Hyderabad; the latter satisfies the sentiments of the public and is a reminder of past glories and a pointer to future glory.

APPENDIX.

COST OF THE DEVELOPMENT COMMISSIONER AND HIS STAFF PER MENSEM.

	RS.
One Development Commissioner at Rs 2,150—	
In the scale of Rs 2,150—2,200—2,350	2,150
Four peons for the Development Commissioner—	
Salary at Rs. 16 per mensem	64
Dearness allowance at Rs. 20 per mensem	80
One Steno-typist for Development Commissioner—	
Salary	51
Dearness allowance	22
Shorthand allowance	35
One Assistant Secretary (Scale Rs 400—75/2—700)—	
Salary	400
Dearness allowance	70
One Steno-typist for Assistant Secretary—	
Salary	51
Dearness allowance	22
Shorthand allowance	35
Two peons for Assistant Secretary—	
Salary at Rs 16 per mensem	32
Dearness allowance at Rs. 20 per mensem	40
Three Superintendents—	
Salary at Rs 200 each	600
Dearness allowance at Rs. 41 each	123
Nine Upper Division Clerks—	
Salary at Rs. 90 each	810
Dearness allowance at Rs. 24 each	216
Three Lower Division Clerks—	
Salary at Rs. 51 each	153
Dearness allowance at Rs. 22 each	66
Current Section—(Three typists)—	
Salary at Rs 51 each	153
Dearness allowance at Rs. 22 each	66
One Attender—	
Salary Rs. 24 <i>plus</i> Dearness allowance Rs. 20	44
One Tapal Clerk—	
Salary Rs. 51 <i>plus</i> Dearness allowance Rs. 22	73
One Circulation Clerk (Rs. 51 <i>plus</i> 22)	73
One Despatching Clerk do.	73
One Telephone Clerk do.	73
Two Examiners: 2 × (Rs. 51 <i>plus</i> 22)	146
Three peons: 3 × (Rs. 16 <i>plus</i> 20)	108
Total	5,829
or Rs. 6,000 per month nearly.	

Note.—All the sections will not be needed immediately. The staff will be employed as work increases, Secretariat scales of pay adopted as the staff works as part of the Secretariat.

CHAPTER III.—LAND—OTHER USES.

61. In the chapter on "Land Development," I have dealt with the facilities that I consider necessary for the agriculturists to raise the usual kinds of crops with a greater certainty of return. I shall now deal with a few pursuits connected with the land and its products which are likely to yield higher incomes and contribute to the prosperity of the tract.

I. HORTICULTURE.

62. The Famine Code Revision Committee suggested that extension of fruit cultivation should form a prominent feature in the programme of the Agricultural Department and that it should carry on an intensive propaganda to encourage the planting of orchards in villages where conditions were favourable. The Fruit Specialist made a rapid survey visiting important places in a period of two months and submitted his report on 11th February 1942. He considered that, on an average, three areas each in 22 taluks of the districts of Bellary, Kurnool, Anantapur and Cuddapah were suitable for commercial fruit growing. The report was under consideration and discussion and nothing happened till 14th February 1946 when in pursuance of the Grow More Food Campaign the Government appointed a Soil Survey Officer to assess the suitability of five out of about 66 areas proposed by the Fruit Specialist. The report of the Soil Survey Officer with the remarks of the Director of Agriculture was received in December 1947, and is under consideration of the Government. Of the five sites examined by the Soil Survey Officer, only one, Kodur, was considered promising. This area need not have been examined by him at all as orange orchards have already established themselves in it and are in fact expanding in some places at the expense of food crops. In other areas water-supply was found to be the chief difficulty. It is clear that more vigorous action and sympathetic consideration are necessary if orchard cultivation is to develop. I suggest that the detailed analysis of the sort made by the Soil Specialist is not really necessary, except where the Government themselves decide to plant orchards of their own. In fact, I gather that the soil survey was made with this object in view.

63. Independently of any action by the Government, fruit gardens are springing up in a few scattered areas partly because of the attraction of high profits during the war. But a good number of them are failures because of ignorance. Either the sites selected are alkaline or the soils shallow, or the water table is high or transport charges are high. Provision of proper technical assistance is the first requisite if the present attempts are not to fade away and if they are to intensify. One Special Demonstrator trained in fruit-growing is necessary in each district to go around the areas provisionally selected by the Fruit Specialist and do propaganda in favour of fruit-growing and to advise the ryots in the selection of the soils and the kind of orchards to be grown.

64. Unlike agriculture, where a crop is reaped within six months of sowing, horticulture involves a preliminary period of waiting of from 5 to 7 years before the trees begin to yield. The poor ryot with a small holding cannot afford to wait and horticulture has thus become a pursuit of the comparatively well-to-do ryots. But even they would need some inducement if they are to go in for fruit-growing on a larger scale than at present. Assessment particularly on dry lands is low and forms an insignificant item of the costs; exemption of assessment during the waiting period is thus no great attraction. A subsidy of Rs. 25 an acre for a period of about five years for fruit trees grown and tended in accordance with the advice of the specialist appears to be the necessary stimulant. If the proposal is accepted details can be worked with necessary safeguards against abuse. Assuming 20,000 acres are planted with fruit trees as a result of this offer, the amount payable as subsidy will be Rs. 25 lakhs over five years which, as an item of famine insurance will not be excessive. This offer may tempt even the poorer ryots to set apart some portions of their holdings for raising fruit trees or till it may be possible to persuade them to pool their lands for this purpose.

65. Many of the orchards will have to depend on wells for their supply of water and they are expensive and beyond the means of the average ryot. If a ryot can afford to take a loan under the Takkavi Act, repayment of instalments should begin only after the trees begin to yield. The Government will have to sink some wells themselves specially for the benefit of poorer ryots. During the non-bearing period no charge need be made for the use of water. Thereafter a suitable water rate may be charged. For irrigating 5,000 acres (out of the 20,000 acres I have proposed) about 1,000 wells will be required and the investment may amount to Rs. 20 lakhs. This will be ultimately remunerative. I am assuming that the wells for serving the remaining extensions already exist or that the ryots will dig them with the aid of loans and subsidies also so long as the subsidy scheme lasts.

66. Good nurseries are vital for the success of the scheme. It is only after seven or eight years after a plant is purchased and planted that its yielding capacity is known, and

if the plants are not of good quality or spurious, all the money and labour spent during the long waiting period will have been wasted. If Government decide on encouraging orchard cultivation by substantial assistance in the manner suggested above, it is desirable to have a Government nursery in each district. I doubt if Kodur can be expanded to provide the needs of the whole area. Private nurseries will however continue to exist and the recent developments at Kodur show the urgent need for exercising control over them. Many a gardener and a good number who own no gardens has taken to the sale of plants as a quicker way of getting rich than the slower process of waiting for trees to bear and sell the fruit. The gardener does not use his best yielding trees for grafting or budding and the trees selected are poor yielders or no yielders at all. Spurious plants or plants not true to type are thus put on the market and the nurserymen feel safe as the result of their deception or inexpertness will come to light about seven years later when it will be too late to take any action against them. Legislation should be undertaken as soon as possible to regulate private nursery trade.

67. It is necessary to increase the consumption of fruit as the diet of the people is poor and ill-balanced. This can be done by persuading every person who has some vacant site in his house to grow a fruit tree or two in his backyard. A number of plants may be distributed free and two annual prizes of Rs. 10 each may be awarded in each village to the persons who have taken best care of their plants during the year. This scheme may be in operation for five years.

68. The technical staff to work these proposals will be one Assistant Fruit Specialist, five demonstrators, one for each district, seven peons and one clerk for the Fruit Specialist. The annual cost of the establishment will amount to about Rs. 15,000 per annum or Rs. 75,000 for five years. The regular staff of the Agricultural Department and the Revenue staff should afford the technical staff the assistance required.

69. Most of the machinery for canning arrived at Kodur Farm some months ago and is lying idle. I gather that it is proposed to remove the articles to Madras and to open the canning factory at Madras. In a big city like Madras, private enterprise given proper assistance, can be trusted to take up this kind of work and it would be very unkind to deny even small facilities to an admittedly poor tract like Rayalaseema. I suggest that orders may be issued to proceed with the erection of the factory at Kodur and that steps be taken to supply the balance of the machinery required. Arrangements should be made at the Kodur Farm to teach students scientific methods of canning as is done at Lyvallpur, so that fruit canning may be extended as a cottage industry. This industry will be a necessary corollary to the extension of horticulture.

70. The proposals under the head may cost Rs. 50 lakhs over a period of five years, but the results will be of enduring benefit to the tract and I submit that this investment will be well worthwhile.

II. MULBERRY CULTIVATION—SERICULTURE AND ERICULTURE.

71. The climatic conditions of portions of the taluks bordering the Mysore State named

Harpanahalle.
Kudligi.
Rayadrug.
Kalyandrug.
Penukonda.
Madakasira.
Hindapur.
Madanapalle.
Punganur.
Palmaner.
Kuppam.

in the margin are similar to those in the State and the question was often asked why mulberry cultivation and sericulture should not be developed in those taluks as had been done in the State. Some sporadic attempts were made by individuals from time to time but they petered out for want of sustained effort and encouragement. Action by the State was clearly necessary; it was taken about two years ago by the Industries Department which opened experimental farms at Hindupur and Harpanahalle. The results are entirely satisfactory and I was

told that even foreign and superior varieties of silk-worms easily acclimatized themselves to the local conditions. Propaganda for extension to the villages has started, but at the rate at which it is proceeding, it will take a very long time indeed before any tangible extension takes place. Occasional visits to the villages where ryots may be persuaded to plant mulberry are not enough. More vigorous and sustained action is necessary. It has been suggested to me by several public workers in those areas that arrangements should be made to train students at the farms. I consider that it is a very good idea and recommend that it be acted upon. I gather that a course of training for four months would be enough to enable the students to pick up the fundamentals and start work on their own account in their villages; there will be the departmental officers to advise and help them out of difficulties beyond their capacity. Twelve students may be trained at each centre at a time and two batches may be trained a year. Thus, in a year about 48 students would be equipped for starting sericulture in their own homes. A monthly stipend of Rs. 30 would be necessary as the poor farmers cannot afford to lose the services

of the students during the period they are away on training and also maintain them. The cost per year including contingencies may amount to Rs. 6,000. The scheme may be worked for at least three years to start with. The selection of students should be confined to the residents of the border taluks. One of the conditions of the training should be that on return to his village, the student must, for a period of three years, cultivate mulberry on at least one acre and rear worms on it, in default refund the stipend with interest. Once villagers realize that the undertaking is profitable, they may be trusted to adhere to it and pursue it vigorously. The details may be modified but the main point is that the technique should be imparted to the villagers by training them, if there is to be rapid expansion and if it is to rest on secure foundations.

72. It will be necessary to make arrangements for the disposal of cocoons or the yarn raised by the ryots at fair prices free of middlemen and their commissions. If the Government do not intend to purchase themselves, as the Mysore Government did in the initial stages and I believe are still doing, the Co-operative Department may be called on to assist. Silk weaving is done in several centres in the Rayalaseema, Rayadrug, Dharmavaram and Koduru, etc., and it should be possible to supply the weavers indigenous yarn cheaper than the imported varieties and thus secure greater prosperity for the industry. Intelligent and enterprising marketing arrangements will be necessary.

73. At Kudligi, a unit for experiment in Ericulture has been started and I was told that the product was considered good and is being sent to Kollegal for further tests. If they are found satisfactory, similar arrangements may be made for the spread of Ericulture. Castor is grown on a large scale on poor soils in these areas and a cottage industry which will add to the meagre income of the cultivators will be welcomed.

III. FORESTS.

74. The area under forests is 33.8 per cent of the total area in Kurnool district and 30.5 per cent in Cuddapah; the percentages for Bellary, Anantapur and Chittoor are 9.9, 10.5 and 13.9 per cent respectively. In the entire Province, the area under forest is 16.90 of the total area, the forests in Kurnool and Cuddapah are extensive. I have already dealt with the help required from forests for better cultivation of land. I consider that the prospects of utilization of forests for other purposes should be examined more closely than has been done in the past.

75. The timber may not be of the superior variety found in the Malabar forests but it is good enough for the simple needs of the people of Rayalaseema. I have suggested the use of the power from the Gazulapalle Paper Mill boiler for a saw mill. That there is need for the construction of more houses is acknowledged. Cement and iron and steel are not available in sufficient quantities even for more important purposes. The high cost of materials is one of the chief difficulties that stands in the way of the acceleration of house-building. It occurs to me that it will be a good solution if the Forest Department could arrange to supply the materials like beams, rafters at reasonable rates to bona fide applicants. The work may be done departmentally if possible; if not contractors may be employed and the rates at which the materials may be sold prescribed. There is a considerable programme of building in connexion with Co-operative Housing Schemes and colonies for Harijans. Also houses have to be built for villagers displaced by submersion of lands under the Tungabhadra Dam. The materials which can be had at reasonable cost may be used for these constructions. This will be a good object lesson for private house-builders to copy.

76. Bamboo is available in abundance. In the short-term plan for increased production drawn up by the Government of India, paper is one of the industries to be developed. Diguvametta in the Nallamalais in the Kurnool district is a suitable place for starting the industry; good water is available in plenty and communications are not difficult. Every effort should therefore be made to persuade the Government of India to include this area in their programme.

77. Several cottage industries can be started making use of bamboo as raw materials, i.e., mats, cots, chairs, bookshelves, etc. The Industries Department may be asked to work out the details. That full use is not being made of this raw material cannot be disputed.

78. Chittoor forests are being felled heavily for providing fuel to the city and for manufacture of charcoal also mostly for the city. Unless this over-exploitation is stopped soon and plans for regeneration put quickly into operation, there is the grave risk of parts of the district getting as barren with scanty rainfall like some parts of Bellary and Anantapur districts.

IV. SHEEP.

79. I have since been able to secure the figures of the special census conducted in December 1945 in connexion with the supplies to the army which show that the distribution of sheep population is as follows:—

Cuddapah	..	..	..	..	..	..	434,981
Kurnool	.	..	..	..	..	..	489,851
Anantapur	..	..	..	..	..	..	909,766
Bellary	..	..	..	..	..	..	313,602
Chittoor	..	..	..	..	..	..	576,109
							<hr/>
Total for Rayalaseema							2,724,309
Total for the Province							10,454,812
							<hr/>

80. Rearing of sheep and weaving of wool form pursuits next in importance only to agriculture and weaving of cotton. The Kurubas, the usual caste name of the shepherds, is, however, one of the most backward of the communities and the present practices of handling wool are not sufficiently remunerative to make them at least as prosperous as other communities, low as the general level of income and prosperity are. It is, therefore, necessary that the improvement of the sheep economy should receive special attention.

The integrated development of sheep-farming requires: (1) better grazing facilities; (2) improving the quality of the breed; (3) improved methods of shearing and cleaning the wool and (4) improvements in the methods of weaving and marketing. Tanning and manufacture of leather goods are the consequential industries and they also need attention.

81. Sheep-penning is the main source of manure particularly for dry lands. In recognition of this service, apart from special hire charges paid by ryots for penning in their individual fields, the shepherds enjoy the privilege of grazing the sheep on the cultivable fields before crops are sown and immediately after harvests. But while crops are on ground and during summer months sheep continue a semi-famished existence. If the sheep are to be kept in normal condition of health which does not impair their breeding capacity, it is necessary to provide proper grazing facilities wherever possible in unreserves or village forests or the nearest reserves. An intensive survey of the available grazing resources is necessary to set apart suitable grazing grounds for sheep and special concessions like those enjoyed by the Sugalis in respect of their cattle should be granted. A special Forest Ranger for each district supervised by Assistant Conservator of Forests for the whole area to work under the Conservator of Forests may be appointed to attend to this. It should be possible to complete the work in two years at the most. As each taluk or other suitable unit is completed, the proposals should be examined and orders passed and effect given to them quickly. It is not necessary to wait till the whole area is surveyed.

82. Improvement in the quality of wool can be effected only by improving the breed. The opening of a combined cattle and sheep farm in each district has already been suggested. But this forms part of a long range plan; a short-term plan, that will produce results in two or three years is necessary. I have already referred to the proposals for the distribution of forty Bikaner rams (paragraph 3-g). The experience at Kudithini in Bellary district shows that the present arrangements need to be altered if there is to be any progress at all. These valuable sheep are distributed to individual shepherds who take them out for grazing with the rest of the flock. The imported varieties are delicate and cannot stand the hardy life of the indigenous varieties and soon die. Nor can they stand the jealousy and rivalry of local rams. The subsidy of Rs. 2 a month is spent not on the special feeding which animal requires but on the shepherds' needs. The loss of the subsidy on the death of the animal is borne with silent fortitude characteristic of the community. The number of improved rams is insignificant when compared with the large sheep population. I suggest that in three to four centres in each of the wool producing taluks a flock of 25 sheep should be maintained in charge of a stockman-compounder with one or two assistants. He will look after the animals during day and during nights distribute them among the shepherds.

the shepherds keep their animals and collect them again the next morning. I suggest that the experiment may be tried in the taluks shown in the margin, and, if the results are encouraging as I feel sure they will, the scheme may be extended in those areas and other taluks as well. Merino sheep may also be tried in taluks adjoining the Mysore border. There will be about 48 centres with 1,200 animals. On the rough assumption that the cost and maintenance of an animal costs about Rs. 200 per annum, the initial outlay will be Rs. 2,40,000 in the first year and Rs. 1,50,000 in the second year and third years each, or Rs. 5.4 lakhs in all. I am assuming that each animal will live for three years subject of course to normal casualties.

Anantapur district—
 Kuva adrug
 Anantapur
 Hindupur.
 Bellary district—
 Bolary.
 Harp mahalle.
 Adoni.
 Kurnool district—
 Kurnool
 Nandikotkur.
 Cuddapah district—
 Rayachoti
 Badvel.
 Chittoor district—
 Madanapalle.
 Palmaner.

83. Shearing is skilled work and Sri Venkatanarayanappa of Lepakshi (Hindupur taluk) told me that an improved type of shears were in use in the Mysore State. I could not get a sample, but I have no doubt the information is correct. About two dozens may be stocked in each of the 48 centres suggested above and lent to the shepherds for use when required. But more important is the cleaning and grading of wool. I gather that the Registrar of Co-operative Societies has under consideration the question of setting up suitable machinery in a central place for the purpose. The timid Kurubas will not, I am afraid, respond and cost of transport to and fro will be heavy. Cumbli weaving is at present a cottage industry and should remain so considering the intimate contact of the shepherds with rural life; that is why I am not advocating at present the starting of a woollen mill. I therefore suggest that a small cleaning machine may be set up in each of the 12 taluk headquarters named above and a nominal charge made for the services till the schemes become popular. The initial investment may be somewhat heavy but recurring maintenance should gradually diminish. I reckon about Rs. 6 lakhs should suffice for the scheme to be worked during three years.

84. Spinning and weaving should continue to be a cottage industry. The methods of weaving need considerable improvement. The experiment conducted at the Siddapuram Criminal Settlement demonstrated that fly shuttle could be used with advantage for weaving but unfortunately the settlement wound up this line of activity some years ago. But the experience is available and can be drawn up to revive the method. Proper looms may be supplied to weavers and the cost recovered in easy instalments. The Co-operative Department should take up the supply of these looms, collection of the products and marketing them. It is doing so in the case of cotton goods and the shepherds are in as great need of assistance in these directions. Sheep continue to be useful even after they are dead or killed for the table as well as providing raw material for the leather industry. Co-operative Societies can be induced or organized to take up tanning on improved lines and manufacture of improved leather goods. As I have already mentioned, the Lepakshi Society undertook both these activities but soon abandoned them for lack of sustained sympathy and adequate technical help. I suggest that efforts should be made to revive these activities in that society and similar societies started in the eleven other taluks giving them subsidies to cover losses and staff free of cost till they establish themselves; they should be able to establish themselves in three years.

85. The Government may have to spend about 18 lakhs on the various schemes suggested under this head. But I submit this is not an unduly large proportion of expenditure considering the importance of sheep for the general welfare of the tract and the large but very backward community that needs assistance.

V. POULTRY.

86. Poultry farming is one line of useful and remunerative activity which can be pursued by villagers. Poultry farms are being started by enthusiastic individuals. The one at Alur which also sells medicines for diseases of fowls is a very noteworthy attempt. Incidentally, the Alur Pharmacy holds many certificates from distinguished persons in other parts of India and abroad, but it is not patronized or encouraged by the Madras Veterinary Department. The Department has a plan to open a poultry farm at each district centre but that will be utterly inadequate to serve the area where the income from agriculture is low and people need alternative foods when crops fail. The department may not be able to find the staff required for rapid expansion. I therefore suggest that to start with in the 48 centres, I have suggested above, poultry units each consisting of 20 hens and two exotic cocks may be placed in charge of the stockman-compounder who may be given the assistance of a servant to tend them. The capital expenditure on a farm with 20 hens and 2 exotic cocks will be about Rs. 100 for each centre and the recurring expenditure Rs. 100. The expenditure in the first year will be Rs. 9,600 but if the farms are well managed they should soon not only pay for themselves but earn profits. This widespread demand for poultry is a very encouraging sign.

CHAPTER IV.—MINING.

87. In view of the reputed mineral worth of Rayalaseema the need for intensive Geological Survey has been conceded and the Government are taking steps to get priority for the survey of the area. It is therefore unnecessary for me to deal with this aspect of the subject except to express the hope that efforts will soon fructify.

88. But there are a few points in regard to the present working of the mines which call for immediate attention. In taking out the mineral deposits we are permanently depleting the resources without any prospect of recouping them. It is therefore necessary that the extraction should not be wasteful, and should be in competent hands. The administration of the mining rules is at present very unsatisfactory.

89. No information is available either in the taluk or Revenue Divisional Office or the Collector's office about the extent and nature of mining at any one time in the district. Prospecting licences are granted without much scrutiny and mining leases are granted to persons holding prospecting licences almost as a matter of course. The grant is entered in a special register. After this no effort is made to find out what becomes of the mine, whether it is worked or not, what the output is, how the raw material is disposed of or whether the lands have been subleased. Even as regards the collection of royalty and dead-rent, there is no verification of the actual output at the pit's mouth and whatever figures the lessees furnish are accepted without question. There is no doubt that considerable leakage of revenue is taking place for want of adequate verification. Taking Dhone taluk, Kurnool district, as an example, it is found that from 1940, concessions have been granted to several persons from distant areas such as Calcutta (S. S. Gazdar and S. K. Datta) and Bombay (Vishnu Nimbkar) over whom local officers can exercise no effective control. There are as many as 40 lessees in the taluk and good many of them do not appear to have sufficient resources or proper technical staff. Some of them are not working at all, e.g., B. A. Nabi Sahib (licensee for limestone), Maddiah of Dhone (steatite), K. Venkatanarayana of Dhone and P. V. Reddi of Kurnool (red oxide of iron), B. Venkatapathi of Jammalamadugu (China clay, etc.). There are good reasons to suspect that there are several unauthorized sub-leases. The rule that no mine owner can possess more than ten miles of the lease area has been observed. One Saj Mining Company appears to own mining concessions in several taluks of Kurnool, Cuddapah, Anantapur and Bellary districts. The present methods of extraction are primitive and wasteful. Slate Industry in Markapur is a glaring instance of this and technical advice and control are badly needed.

90. If valuable but wasting assets are not to be frittered away, the administration needs immediate re-organization. I consider that the grant of mining leases should be centralized in the Director of Industries. It will be then possible for the Government to employ a technically trained staff with knowledge of minerals to scrutinize the applications. The Revenue, Forest or Public Works Department may have to be consulted but that could be easily arranged and should not prove an insuperable difficulty. The Government will have at one place and at all times information about lands under lease, prospecting licence and lands available for prospecting. The information will be necessary in framing plans for industrialization and putting them into effect.

91. Systematic inspection of the mines after leases are granted is equally important. Unless there is regular periodical inspection rules cannot be properly enforced. The present inspection by the Government of India is sketchy and utterly inadequate. A district mining officer for each of the districts of Kurnool, Cuddapah, Bellary and Anantapur with an adequate number of assistants according to the extent of mining operations in each district should be appointed. I am not suggesting any staff for Chittoor now, as there is at present no mining in the district. The cost will be more than amply met from the increased revenue that is certain to result. If the proposal is accepted the details can be worked out in consultation with the Director of Industries.

92. There is a general awareness of the importance of mining in the districts partly no doubt because of the large profits made during the war. Intelligent ryots seize eagerly on any stone that seems to contain any mineral and begin to speculate what it really is. Several reports were made to me during my tours of lead here, copper there, oxide in a third place and so on endlessly. It is very desirable to make full use of this awakening and to prevent its being disputed in wild goose chases. There is no college in which practical mining is taught and it will be a long time before we have one. I suggest that 12 students, three from each district (I am leaving out Chittoor for reasons already given), preferably those related to persons who hold mining leases may be sent each year to Dhanabad for training by arrangement with the Government of Bihar. This may be continued for a period of three years and extended later if the results

justify. The stipends may be fixed at an amount that will cover the cost of tuition as well as boarding and lodging. The Government should have a first lien on their services if required and the students should not accept employment outside the Rayalaseema for a period of five years without permission. This will ensure that the training given at the cost of the Government will be used for the benefit of the tract. It is a four year course at Dhanabad and the entire course costs about Rs. 2,260. The cost of training 36 students selected in three years works out to Rs. 81,360.

93. To examine the samples picked up and advise the public about their possibilities, a research substation may be opened at Anantapur, which is fairly central. It may be attached to the Arts or Engineering College for the present. Later on when the Paint Industry or other allied industry is started, the research station may be made its adjunct. The initial expenditure for equipment may be about a lakh of rupees and the recurring expenditure about Rs. 25,000 per annum in the early years.

CHAPTER V.—INDUSTRIES.

I. LARGE SCALE INDUSTRIES.

94. The utmost limit of expansion of irrigation possible has been estimated at 27 per cent of the net area cultivated (paragraph 20 above) and as most of the irrigation sources depend on local rain which is uncertain and scanty, the extent of certain protection will be much less. The proposals made under Land Development will make agriculture a little less uncertain occupation and probably serve to maintain people on a subsistence level. But if there is to be any real improvement in the level of income and standard of living, industries are the only hope for the tract. It has abundant mineral resources and grows important commercial crops, cotton, groundnut and castor, but so far no use has been made of these resources. Permission has been granted for the starting of certain industries [paragraph 3 (c) and (d)] but at the rate at which things are moving no industry seems likely to be started in the near future. I give below the list of industries for which licences or capital issues have been granted or sanctioned in the Rayalaseema for ready reference. [Vide statement on page 35 below.]

95. Mineral substances useful in the paint industry are barytes, red oxide and red and yellow ochres. All these are available and are being mined. Permission for capital issue for a paint, varnishes and lacquers, etc., factory has been granted in the name of a concern known as Rayalaseema Paints Limited. I gathered that it was the intention to start the factory at Dhone. One rich sowcar and factory owner of Nandyal told me that he was the original sponsor but that he had now withdrawn as it was suggested by other sponsors that some persons who were not investing any money in the concern should be given seats on the Board of Directors. He mentioned the name of another sowcar and mill-owner at Dhone as the person now in active charge of the matter. I spoke to the latter; he said it was true that he was an important promoter, but he had not the faintest notion of what kinds of paints the concern proposed to produce or the size of the plant to be set up or the capital required. It would appear that he made large profits in the groundnut oil trade in the earlier years of the war but lost some money latterly and that his enthusiasm has now cooled down. It is extremely unlikely that the industry will come into existence if it is left to the original promoters.

96. A licence has been granted for a cement factory in the name of Sri B. P. Sesha Reddi, Kurnool. This is another industry which makes use of the existing mineral resources. Selection of the site for factory from the several alternative sites suggested has yet to be made and sanction for capital issues has yet to be applied for. I have already referred to the slow progress in regard to textile mills and sugar factory.

97. It is unnecessary to give further details. The facts observed serve to bear out strongly the recommendation made by Sri R. Suryanarayana Rao and Sri B. S. Sanjeevi Reddi in the note to the Preliminary Report of the Industrial Planning Committee that more radical and far-reaching measures are necessary to ensure success of any enterprise in the tract than the setting up of an Industrial Finance Corporation. Local capital is not abundant and it is largely in the hands of conservative persons who are unwilling to take any risks and who expect speedy returns. There are no industrial traditions and organization and managerial skill have yet to be developed. Whatever the decision regarding private enterprise in other parts of the country may be, unless the Government take a direct and active part, the prospects of industrialization of the tract will continue to be remote. The Vegetable Industry may be left to private enterprise as some progress

LIST OF INDUSTRIES FOR WHICH LICENCES OR CAPITAL ISSUES HAVE BEEN GRANTED OR SANCTIONED IN THE RAYALASEEMA.

District.	Name of the company.	Chief promoter.	Object of issue of capital.	Location of the industry.	(Capital proposed.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
INDUSTRIES FOR WHICH LICENCES HAVE BEEN GRANTED.						
SUGAR INDUSTRY.						
Anantapur	The Rayalaseema Sugars, Ltd.	Sri M. Madhava Rao.	..	Hindupur	..	The Company has also got a licence for importing sugar machinery from abroad.
OIL MILLS.						
Kurnool	Krishna Oil Mills	Sri V. Krishnamurthy	Oil milling	Dhone	..	..
Do.	Sri Venkataswamy Oil Mills	Sri Segar Venkateswamy Chetty.	Do.	Do.	..	..
Do.	..	Sri Jomalaga Reda Padmanabiah Chetty.	Do.	Do.	..	..
Bellary	..	M/s. Rayachoti Venkata & Sons.	Do.	Adoni	..	..
Anantapur	..	Sri M. L. Narayanaswamy	Do.	Tadipatri	..	..
VEGETABLE OIL INDUSTRY.						
Anantapur	The Hindupur Vegetable Oils & Refineries, Ltd.	Sri D. B. Setty & Co.	Producing refining and hardening of vegetable oils & of manufacturing soap.	Hindupur	Rs. 5 lakhs	..
VANASPATHI INDUSTRY.						
Bellary	The Karnataka Vegetable Oils & Refineries, Ltd.	M/s. Ulagaddi & Co.	Oil refining & manufacture of Vanaspathi.	Hospet	Rs. 10 lakhs	..
Kurnool	The Tungabhadra Industries, Ltd.	M/s. Cotton Textiles, Bombay	Do.	Kurnool	Rs. 30 lakhs	..
Chittoor	The Vegetables, Ltd.	Sri C. P. Sarathy Mudaliar	Do.	Chittoor	Rs. 12 lakhs	..
Kurnool	Sri Rao Bahadur B. P. Neshu Reddy.	..	..	..	..	There is a proposal to locate a 100,000 tons factory instead of the 50,000 tons factory already sanctioned.
TEXTILE INDUSTRY.						
Bellary	The Rayalaseema Mills, Ltd.	The Rayalaseema Mills, Ltd.	Cotton spinning	Adoni	Rs. 30 lakhs	..
Do.	The Karnataka Spinning & Weaving Mills, Ltd.	Sri Rao Bahadur Y. Mahabaleswarappa.	Spinning of yarn and cotton fabric.	Bellary	Rs. 70 lakhs	..
Do.	The Adoni Sri Cotton Mills, Ltd.	Sri Vembu Iyer	Spinning of yarn	Adoni	Rs. 29 lakhs	..
Guddeph	The Kamalapuram Spinning & Weaving Mills, Ltd.	Sri K. S. Krishnamurthy	Do.	Kamalapuram	Rs. 20 lakhs	..
Anantapur	The Rayalaseema Textiles, Ltd.	Sri M. L. Narayanaswamy	Do.	Tadipatri	Rs. 15 lakhs	..
Do.	The Anantapur Spinning & Weaving Mills.	M/s. Anantapur Spinning & Weaving Mills, Ltd.	Do.	Penukonda	Rs. 7½ lakhs	..
Kurnool	The Tungabhadra Textiles, Ltd.	Sri M. Madhava Rao	Do.	Kurnool	Rs. 12 lakhs	..
INDUSTRIES FOR WHICH CAPITAL ISSUES HAVE BEEN SANCTIONED.						
Anantapur	The Rayalaseema Refineries, Ltd.	Sri M. L. Narayanaswamy	Oil industry	Tadipatri	Rs. 15 lakhs	..
Kurnool	The Rayalaseema Paints, Ltd.	Sri K. Venkata Reddy	Manufacture of paints, varnishes, lacquers, etc.	..	Rs. 25 lakhs	..

has already been made in this direction. I suggest that the Government should start the Paint and Cement factories and a textile mill each in Kurnool and Anantapur districts as their own concern. After they are established, the concerns may be handed to private individuals or companies if they come forward. The rapid industrialization in Mysore State has been rendered possible only because the Government took the initiative and opened up new lines of activity by starting the industries themselves. The Bhadravati Iron Works, the Silk Factory, the Paper Factory, Factory for the manufacture of electrical appliances, the Kolar Wool Spinning Centre and many others, would not have come into existence but for State action. For the development of a backward tract like Rayalaseema with great possibilities for development this is the example to follow. The services of foreign experts may be secured and the investment of some foreign capital may be encouraged by special concessions. But there should be provision for the training of the local talent and for local capital to invest to some extent in the concerns. There will be enough of industrialization for the present if the industries which have been sponsored by the grant of licences and capital issues are brought into existence. I would add to the list only the Iron Industry and Paper Industry. Several deposits of Hematite are reported to occur in Kurnool district and in the Sandur State, adjoining parts of Bellary district. The two can be worked by one agency and as electrical energy is expected to be available soon from Jog Falls and thermal station at Kurnool, the lack of coal should not be a serious disadvantage. Iron is one of the basic industries and no argument is necessary in support of State action. Paper has, as I have stated in paragraph 96 above been included in this short-term plan of the Government of India.

98. A College of Technology at Bellary and Oil Technology at Anantapur are under consideration and it is hoped they will soon materialise. An industrial school like the present school at Bellary may be opened at Cuddapah and Nandyal (Kurnool) and Kuppam (Chittoor) to serve the needs of these districts. The cost of initial equipment may be Rs. 4 lakhs for each school; the annual charges Rs. 25,000.

II. RURAL AND COTTAGE INDUSTRIES.

99. The importance of rural and cottage industries for the welfare of the country is recognized in every quarter. Quite recently the Prime Minister for India inaugurating the annual session of the Federation of India Commerce, observed (Please see the report in "The Mail" dated 28th March 1948) that one of the most important ways of meeting the present crisis was the immediate development of cottage industries on a large scale and that the only thing that could be done rapidly was something on a widespread cottage scale. They are particularly necessary in a tract where the need for subsidiary and spare time employment is great because of the uncertainty of agriculture. The Department of Industries has a scheme in operation for developing cottage and village industries on intensive lines as a part of the Firka Development Scheme. A revised scheme has since been formulated for the village industries for the rest of the Province and is under consideration. It is unnecessary to give details of the schemes here. But I will take the liberty of making some observations based on my visit to some of the centres. It is no use training students in improved methods unless there is some chance of their putting them to use after the training is over. The pottery training centres at Cuddapah, and Harpanahalle have turned out to be a waste and one at Betemcherla has been closed. Out of 35 students trained at Harpanahalle, only one has set up the production of improved quality of goods. The others have gone back to the old ways. The potter, the carpenter and the blacksmith are the important three out of the five artisans which every village has been provided with by the grant of inams. Their hereditary skill is amply adequate for the simple needs of villagers. Their services and wares are within the slender means of the villagers. So unless the training centres are also producing centres of the same kinds of goods of better quality at the same old prices, the efforts at improvement cannot be successful. When students return home they must be provided with capital, repayable in easy instalments to set up with improved tools and methods, and there should be periodical visits by officers of the Department to watch over their welfare until they are fairly well established.

100. Any plan for development of cottage and village industries must take note of those that already exist or existed and try to improve them before introducing new activities. It is easier to build on existing foundations and the chances of success are greater. I have been making general enquiries in my tours and give below a list of such industries.

Hand spinning and weaving.—This is the most important Cottage Industry and exists in almost all parts of the Rayalaseema.

The Khadi intensive scheme for selected hikas and the general khadi schemes have been sanctioned and are in operation. The Government are also taking measures to safeguard the interests of handloom weavers through the agency of the Provincial Handloom Weavers against the impending depression. These measures should prove adequate.

I have already dealt with weaving in wool under the section "Sheep."

The other industries that deserve mention are—

- (1) *Metal industry*.—Vonipenta (Cuddapah); Tirupati and Kalahasti (Chittoor).
- (2) *Kora, grass and date mats*.—Rajampet (Cuddapah); a few villages in Cumbum (Kurnool) and Madanapalle and Palmaner (Chittoor).
- (3) *Dyeing and printing industry*.—Jannamalamadugu (Cuddapah), Adoni (Bellary), Survel, Koilkuntla and Nandyal taluks (Kurnool), Pamidi and Uravakonda (Anantapur), Kalahasti and adjoining villages (Chittoor).
- (4) *Carpet weaving (cotton)*.—Pulivendla (Cuddapah), Adoni (Bellary), Cumbum and Kurnool (Kurnool).
- (5) *Hemp canvas*.—Rajampet and Sidhout (Cuddapah), Chilamatturu (Anantapur).
- (6) *Tape weaving*.—Parts of Cuddapah and Badvel taluks.
- (7) *Dolls and toys*.—Settigunta (Cuddapah) and Harpanahalle (Bellary).
- (8) *Silk weaving and dyeing*.—Kayadrug and Adoni and some big villages in Bellary district, Kodur and Gudur (Kurnool).
- (9) *Cotton pattis (screens)*.—Tekkalakotta (Bellary).
- (10) *Bangles and beads*.—A few villages in Bellary and Anantapur districts. Dhona in Kurnool district, Kalahasti and surrounding villages in Chittoor district.
- (11) *Lacquer*.—Nossam in Kurnool district.
- (12) *Sculpture and bronze images*.—Devanakonda (Kurnool), Proddatur (Cuddapah) and Tiruchanur (Chittoor).
- (13) *Baskets and mats from bamboos*.—Kurnool and Kalahasti.
- (14) *Slabs and stoneware*.—Betemcherla (Kurnool) and Yerraguntla (Cuddapah).
- (15) *Seamless mattresses, etc.*—Kuppam (Chittoor).

The list is by no means exhaustive. An intensive survey will I have no doubt bring to light many more. It will also help the starting of new industries by making use of the raw materials available regarding which several suggestions are being received, e.g., palmyra-basket industry and tile and brick making.

101. It is generally true that cottage industries are not flourishing. Individual needs vary from place to place but the reasons may be broadly summarised as—

- (1) Inadequate capital or indebtedness to a few rich sowcars.
- (2) Difficulty in securing enough raw material of the proper quality;
- (3) Primitive tools; and
- (4) Want of publicity and marketing facilities.

For the proper and quick development of these industries which need close and constant attention, I consider that there should be an Industries Officer with technical qualifications in each of the five districts. The Co-operative Department should assist in organising co-operative societies whenever suitable and should work in close association with him. A Cottage Industries Board (Executive) for each district with the Collector, Deputy Registrar of Co-operative Societies and the District Industries Officer as members, the last acting as Secretary would be useful and may be ordered to be constituted. The District Committees may be consulted for securing non-official advice. The State Aid to Industries Act has not, as has been pointed out in the Preliminary Report of the Industrial Planning Committee been availed of to any considerable extent. The Act should be liberalised and its administration should be more sympathetic. I do not see why the Collector should not be empowered to grant the loans and why applications should come up to the Board of Revenue for sanction. After all the Board generally acts on the advice of the Collector.

102. It is not possible to estimate the amount of assistance required. A sum of Rs. 50,000 for subsidies and Rs. 50,000 for loans may be allotted for each district a year for a period of five years. The amount may be altered later in the light of experience.

Schools started by non-officials for teaching such industries should also be eligible for assistance subject to guarantee of proper accounting and supervision. Such institutions are being started by a few enthusiasts. I saw one such in Kurnool. Many more probably exist or will come to existence. They will work at least as efficiently as Government institutions as the grants will depend on results.

CHAPTER VI—CO-OPERATION

103. The importance of a sound Co-operative movement for the proper development of a particularly backward tract like Rayalaseema needs no elucidation. Unfortunately, however, the condition of the movement was found to be unsatisfactory. The Government appointed a Committee in G.O. Ms. No. 323, Development, dated 26th January 1945 to investigate the reasons for the sorry state of affairs and to suggest suitable remedies. The Committee sent up its report on 15th February 1946 and the recommendations are under the consideration of the Government. I have offered my remarks on the recommendations in the concerned Secretariat files. When action is taken on the recommendations, it is expected that in course of time the Co-operative movement will come up to the level reached in other parts of the Province and will be of real service to the people. As the subject has been examined in considerable detail fairly recently, it is unnecessary to cover the same ground again.

104. But there is one other matter, which deserves special mention, i.e., the construction of godowns to facilitate marketing. The Registrar of Co-operative Societies has submitted a revised Five-year Plan for the construction of godowns in his letter R.C. No. 16989/45.C., dated 4th June 1947. He has proposed that 15 godowns (Cuddapah 4, Kurnool 3, Bellary 5 and Anantapur 3) may be constructed for the storage of surplus millets and that the question of construction of godowns for groundnut may be deferred. Though these districts are declared to be statistically surplus for millets, in actual experience very little of the surplus grain comes to marketing centres to be stored and most of the transactions take place in villages. If godown construction is really to benefit the agriculturists in the Rayalaseema it should be undertaken for commercial crops like groundnut and cotton and jaggery. I would even say it would be a waste of money to spend it on godowns for foodgrains in the tract. Chittoor will need two for jaggery and two for groundnut. Including Chittoor, I suggest that the plan for Rayalaseema may envisage the construction of 20 godowns during a period of five years at important well known marketing centres. The cost of these godowns at Rs. 60,000 each will amount to Rs. 12 lakhs half of which will be recovered.

105. The Registrar has suggested that 50 per cent of the cost should be given free and the balance should be recovered in 20 easy instalments. The Government have not yet accepted the principle. Many of the societies in Rayalaseema are poor and as stated above the Co-operative movement itself is not in a good condition. So, whatever decision the Government may take in regard to the rest of the Province I urge that the 50 per cent grant should be the minimum so far as Rayalaseema districts are concerned. Some poor areas may need more. I have not calculated the cost of the staff required to run the godowns as I expect that since the estimate of Rs. 60,000 was framed there has been some fall in the cost of materials and that the savings will more than cover the cost of the staff.

CHAPTER VII—COMMUNICATIONS

I. ROADS.

106. A comprehensive road plan has been prepared by the Highways Department for each district providing for the necessary improvement of existing roads with necessary bridges and causeways and forming new roads of all classes—(1) National Highways; (2) Provincial Highways; (3) Major District Roads; (4) Other District Roads and (5) Village Roads—so that every village of more than 500 population might be brought on to the road map of the district. The works have been assigned priorities as I, II, III and IV; I to III connecting three quinquenniums between 1947 and 1962; IV priority being the period after 15 years and might extend to 10 years as it has to take over whatever has to be brought forward from the I, II and III priorities due to paucity of funds or other causes. Out of a total of 5,000 miles of National Highways and Provincial Highways projected for all the 24 districts of the Province, 1,289 miles will lie in the five districts of Rayalaseema. Under new roads the length proposed in Rayalaseema is 4,165 miles out of the total of 18,000 miles for the whole Province. The allotment for the first five years is Rs. 166 lakhs, out of Rs. 1,020 lakhs for the Province. The mileage of Government roads in the area will be 2,833 against 14,000 for the Province. It will be seen from these details that the provision made for the Rayalaseema districts is adequate and fair.

107. But the formation of all new roads is to be on the basis of contribution by the Districts Boards normally to the tune of half the cost. If this criterion is to be applied to the districts of Rayalaseema, it is doubtful if the new roads will ever be formed. The District Boards, particularly of Anantapur, Bellary and Cuddapah districts, are poor and the sources of revenue inelastic. I therefore plead that an exemption may be made in the

case of these districts and the Government may be pleased to make full grants to these three districts and 75 per cent to the District of Kurnool. The District of Chittoor is comparatively immune from famine and no special concession is asked for in the case of this district.

108. A reasonable standard of maintenance is necessary if the capital sunk on roads is not to turn out to be a waste in the long run. The roads in Cuddapah district are easily the worst in the Rayalaseema and probably in the whole Province. They have deteriorated owing to the accumulated arrears of repairs and there is very little crust on the surface; the heavy rains of 1946 added to the damage; a good many bridges and culverts were washed away. A thorough renewal of 3 inches to 4 inches is required and the estimated capital cost works out to Rs. 22.40 lakhs at Rs. 4,000 a mile for the 560 miles left in charge of the District Board. The question of a special grant of this sum spread over 5 years may be favourably considered.

109. The amounts allotted for the maintenance of roads by the District Boards are uncertain and inadequate. For instance, an allotment of Rs. 65,000 is given in Anantapur for the maintenance of 382 miles of district roads which works out to Rs. 170 a mile. Chittoor roads are the best but the Collector told me they were also deteriorating for want of adequate maintenance. The Government have taken over from 1st April 1946 the responsibility of financing all works on Government roads which consist of all provincial highways and the important of the major district roads. Considering the poverty of the districts, it is suggested that the Government may take over all the major district roads and about half the length of the other district roads in the districts of Kurnool, Bellary, Anantapur and Cuddapah. The District Boards should be required to make a minimum allotment for the maintenance of the reduced length of roads for which they will be responsible and the balance required for reasonable upkeep may be paid as grants till the resources of the District Boards improve. Including the new roads proposed in the Five-Year Programme, there will be 2,413 miles of other district roads and 3,883 miles of village roads or 6,296 miles in all. If about half the other district roads, selecting those which are important, are taken over by the Government, the District Boards will have 5,389 miles in their charges and should be able to maintain them in reasonable condition with the aid of half grant for capital works as at present. At Rs. 100 a mile, the annual grant will amount to Rs. 5 lakhs approximately. This will be in addition to a special assistance for the war arrear renewals which is being given at present.

110. Road formation is the usual work on which labour on famine relief is employed. About 265 miles of roads have been formed in this way in Anantapur district and about the same length in Bellary. All the districts together may account for about 750 miles of such roads; nobody looks after them now and yet they are very important as they are designed to link up interior villages liable to frequent failure of rains. It is suggested that the district boards should be asked to take over and maintain these roads also. The provision suggested for maintenance above in regard to other district roads or village roads should apply to these roads.

II. RAIL. TRANSPORT.

111. There are no plans in the Post War Plans for new construction of railways in the Ceded districts. It is true that the tract is thinly populated and poor and the new lines may not pay. But it is equally true that the development of the area will be hastened by the improvement of communications and that frequent and easy contact with the rest of the country will arouse in the apathetic backward people of the tract a desire for advancement. The district boards are poor and cannot afford to give any financial guarantees. The Government should be prepared to bear the entire risk as part of the responsibility for the development of the area. Until the schemes for development suggested above take shape, it will not be possible to make out a detailed plan for railway extension. I suggest that the following four lines may be considered now for reasons shown against them and that a traffic survey may be taken up as soon as possible :—

(1) Extension of the Hospet to Kottur line to Harihar via Harpanahalle.

Hospet is an important commercial centre and will become more important after the Sugar Factory expands and the Tungabhadra Project is completed. A vegetable ghee factory is being started at Hagaribommanahalli, a station on the line and this place will grow because the people of Narayanadevarakere, a big village likely to be submerged, are likely to move here. Kottur is a central commercial place for cotton and groundnut. Harpanahalle has been long known as an important market for agricultural produce. Linking up with the Mysore State will foster the trade between the two areas. The line is very likely to prove remunerative.

(2) A line from Cuddapah to Nandyal connecting Prodattur, Jammalamadugu, Chagalamarri, Siruvel, Koilkuntla and Banganapalle. This area is the heart of the black-soil tract and the granary of Cuddapah and Kurnool districts. It has considerable surplus

of dry foodgrains, and is an important cotton and groundnut area. Parts of Siruvel, Banganapalle and Nandyal taluks grow fruit and the area is suitable for the extension of horticulture. The area is also full of factions and is criminal. A railway line will assist in the maintenance of law and order also. The line is likely to prove remunerative.

(3) Extension of the Bellary-Rayadrug line to Dharmavaram via Kalyandrug. Both Rayadrug and Kalyandrug are poor taluks subject to frequent famines. They are very backward in all ways. Silk weaving in Rayadrug and cumbh weaving in Kalyandrug are to be developed. This line is suggested to facilitate the opening up of an interior backward area and it is not likely to be remunerative soon.

(4) A line connecting Cuddapah with Nellore or Ongole serving Rayachoti and Razampeta taluks. Conditions of life in the eastern part of Cuddapah district are very primitive and in Chitvel there are people still who have not seen a railway train. This line will provide a direct outlet for the fruit trade of Cuddapah district to the east coast and serve to awaken the people. It will also relieve the strain on the north-east line as the produce from the north intended for the Central districts can be diverted this way without having to travel to Madras and be sent back. This line is also not likely to prove unremunerative in course of time.

CHAPTER VIII—ESSENTIAL PRIMARY NEEDS

112. The subjects I have so far discussed are connected with physical planning intended to improve the earnings of the people and increase their wealth, i.e., economic development as the term is ordinarily understood. But for the people to make proper use of the facilities provided for earning increased incomes and to enjoy the incomes there are certain other basic needs which have to be met and I shall briefly refer to them.

I. WATER SUPPLY.

113. The provision of a safe and adequate water-supply is a basic requirement the importance of which cannot be over-emphasized. It will strike any casual visitor to Rayalaseema how grievously people, particularly in the villages in the blacksoil tracts, suffer from want of a dependable source of drinking water specially in the summer months. The Government recently constituted a Committee to go into the entire problem of water-supply and drainage—urban and rural—and to suggest ways and means to accelerate progress in the execution of schemes). The Committee submitted its report on 28th August 1947 and its recommendations are under the consideration of the Government. Since an expert body has so recently dealt with the subject thoroughly, it is unnecessary and will be presumptuous of me to cover the same ground. I will therefore content myself with inviting special attention to the recommendations of the Committee in sub-paragraph (iii) of paragraph 71 of the Report which reads as follows: "Special consideration should be shown to the Ceded districts in regard to the allotment of funds for their urban and rural water-supply schemes. We put forward this special plea for those districts as Nature has denied them the normal facilities obtaining elsewhere." The Committee have drawn up a revised priority list in regard to municipal water-supply and drainage schemes and have advised the Government not to reopen the order they have fixed as this would lead to delays and discussions. They have suggested that priority in regard to all rural water-supply schemes should be decided by District Committees to be constituted for the purpose (paragraph 66). As these recommendations of the Committee are based on the needs of the entire Province, no departure from them can be urged in regard to such a vital need as water.

114. In paragraph 59 of the Report, the Committee suggest that the Executive Engineers of the Public Works Department have to take charge of rural water-supply schemes in every district immediately and continue the works till they are relieved by the District Engineers. Considering the slow progress in the execution of the present rural water-supply schemes and the special difficulties arising from the physical nature of the tract in excavating wells or drawing up suitable schemes, I urge that effect may be given to these recommendations at once in the Rayalaseema districts. This activity in addition to the expansion of irrigation works which has been advocated will necessitate the appointment of an Executive Engineer for each district as suggested in paragraph 21 above and I suggest that early effect may be given to the suggestion.

115. The Water-Supply and Drainage Committee have estimated the rough cost of all the schemes at about Rs. 40 crores (paragraph 25). Out of 81 municipalities in the Province, the Rayalaseema accounts for 12 and the other urban areas are fewer in the tract. About Rs. 7 crores may therefore be considered to be the fair proportionate expenditure on this tract. As water-supply and drainage are services common to the Province and as only special consideration in the matter of allotment of funds has been asked for, no portion of the cost can be treated as special to the tract.

II. HOUSING.

116. The majority of people in rural areas live in small and insanitary huts; this is particularly true of the Harijans. Fortunately the rainy months are few and winter is not very severe; people do not require much shelter from the weather and spend most of the time outdoors. The improvement of general housing conditions may therefore wait till the general level of income rises as a result of economic development, except where Co-operative Housing Schemes are formulated by the Co-operative Department. But in the interests of health, urgent relief is necessary for Harijans in urban and semi-urban areas. In Nandyal Town, for instance, they live near a stream where all the refuse of the town is washed and corpses are buried or burnt. Every flood inundates their houses making them uninhabitable for days and cholera takes a heavy toll almost every year. Conditions are not much better in other places. In Gargeyapuram, three or four families live in each hut. The site round the town is costly and they cannot afford to buy fresh sites. The Government have set apart a crore of rupees towards the Harijans welfare and a Committee appointed by the Hon'ble Minister for Rural Development is considering the best ways of using the fund for the benefit of the Harijans. Rayalaseema districts will no doubt get their proper share. I am not therefore making any detailed proposals. I hope that at least about Rs. 20 lakhs of the fund will be spent in improving the living conditions of Harijans of the Rayalaseema in urban and semi-urban areas.

III. PUBLIC HEALTH AND MEDICAL AID.

117. The Government have already drawn up comprehensive postwar schemes for the expansion of public health schemes and medical relief for the whole Province and I am unable to suggest any improvements to them. For the sake of ready reference, I shall refer to them briefly here.

Cost for 5 years.

	RS.
<i>Scheme No. 92—Expansion of Public Health Schemes.</i> —Opening of 450 village centres (each village centre to serve a group of villages with a population from 10 to 12 thousand persons) and of 45 group centres (each centre to cater for 15 to 20 village centres) ..	91,62,510
<i>Scheme No 95—Conservancy and sanitation.</i> —It is aimed to have within 20 years a minimum of 10 public latrines for the area served by each health centre and to enforce construction of latrines wherever feasible and to start workshops at each District Headquarters for making standardized conservancy plans and equipment ..	1,03,00,180
<i>Scheme No. 99—Expansion of medical relief.</i> —The object is to provide medical relief generally at a distance of not more than five miles from any village. These village dispensaries will be linked up with village health centres—Scheme No. 92	2,37,23,000
<i>Scheme No. 100.</i> —Improvement or Reconstruction of Taluk Headquarters Hospitals	89,04,000
<i>Scheme No. 101.</i> —Improvement or reconstruction of District Headquarters Hospitals	54,85,000
	<hr/> 5,75,74,690 <hr/>

The Government have approved the selection of six villages in Nandyal taluk for opening the centres under schemes 92 and 99 in the first year. The Districts of Chittoor, Cuddapah, Anantapur and Bellary come in the second to the fifth year, respectively, of the first quinquennium. As the expansion of these services are necessary in all parts of the Province, and as all the Rayalaseema districts have been allotted turns, no special proposals are made under these heads.

118. There is one aspect of the subject however which requires special mention. Plague breaks out almost every year in one or other taluk bordering the Mysore State—Harpanahalle and Kudligi (Bellary district), Kalyandrug, Madakasira and Hindupur (Anantapur district), Madanapalle and Palmaner (Chittoor district)—and the infectoin is usually traced to Mysore. I was informed that no plague regulations are enforced in the State. It seems certain, at any rate, that the authorities on this side do not know what is being done in the Mysore State. A standing agreement with the State for periodical consultations with the State authorities concerned during the plague seasons and the enforcement of uniform regulations on both sides seems very necessary.

IV. EDUCATION.

119. The Government have a comprehensive scheme for the introduction of compulsory elementary education up to the eighth standard within a period of 20 years; Post-War Scheme No. 88. As a first step it is proposed to bring about 1·3 millions of children under instruction in the course of the first five years, compulsion being applied up to the V standard, at an estimated cost of Rs. 700 lakhs. In pursuance of the scheme compulsion is being extended to certain selected areas in Rayalaseema as well as to other parts of the Province. As the scheme makes full provision for the spread of education no other scheme is suggested.

120. But I wish to invite attention to a few points which call for special notice :

(1) Rayalaseema is very backward in the matter of education as in most other matters. According to the Census of 1941, the percentage of literates among men in Rayalaseema is 10·8 against 16·3 for the whole Province and among women 1·0 against 2·7 for the whole Province. It is therefore suggested that in future extension of the scheme special preference may be shown to the Rayalaseema.

(2) There seems to be several agencies running schools. Labour schools is one example. It seems to be desirable to abolish the multiple agencies so far as Government are concerned; this would secure uniformity of standard and eliminate unhealthy competition for posts of teachers.

(3) I gathered that the paucity of teachers was one great handicap in opening more schools or running those that exist efficiently. Increased training facilities and increased allowances during the period of training might help to improve the situation.

SUMMARY OF THE PROPOSALS.

Number
of the
proposal.

Summary of the proposals.

Number of
the paragraph
in the report.

CHAPTER II.—LAND DEVELOPMENT.

I. IRRIGATION.

1	Irrigation will not develop by the mere execution of irrigation works. Close watch over the progress and intense supervision till the increased irrigation establishes itself are necessary	10
2	Renovation and restoration of minor irrigation works should receive first attention	11
3	The minor irrigation staff should be brought under the control of the Public Works Department	12
4	A Tank Restoration Scheme division should be created in each district for a systematic and thorough overhaul of the minor irrigation sources and for executing the necessary repairs as also for proposing the restoration of abandoned sources and formation of fresh sources where possible	13
	Work may be started in the taluks most liable to famine and gradually extended to other taluks until the whole district is covered	14
5	The investigation of all irrigation projects in the Grow More Food five year programme and the Revised Programme for expansion should be expedited and execution started as soon as possible	17
6	The several subsidy schemes have not succeeded in stimulating interest in excavation of wells in Kurnool, Bellary and partly in Anantapur districts. The Government should sink three thousand wells at the rate of 200 per year in each of these districts for a period of five years. Each well should be capable of irrigating at least 5 acres	19
7	The feasibility of adoption of scheme of Tube well irrigation as in the United Provinces should be considered	19
8	An irrigation law is urgently necessary	20 (a)
9	Kudimaramath has become absolute and should be replaced by a cess ; the Government executing the annual repairs themselves	20 (b)
10	The system of calling for tenders for execution of works by the Public Works Department should be kept in abeyance temporarily till the expansion programme is completed and the officers empowered to, entrust works to contractors they consider suitable. The Revenue Department should assist in securing contractors. An appropriate schedule of rates should be drawn up for a taluk or other convenient unit and revised once a year	20 (c)
11	Owing to long distances to be covered and the inaccessibility of most places transport (jeeps) should be provided to the officers of the Public Works Department as a special case	20 (d)
12	Funds for equipment should be provided immediately to facilitate the Engineering College to move to Anantapur at an early date	20 (f)
13	Expansion of Public Works Department staff to provide one Executive Engineer for each district	21

II. IMPROVEMENTS IN METHODS OF CULTIVATION.

14	The two schemes for contour bunding (1) of about 2,500 acres near Hagari ; (2) 5,500 acres near Guntakal be taken up immediately	23
15	Legislation to enforce contour bunding should be expedited .. .. .	..
16	The total area to be bunded is about 54 lakhs of acres. The work may be spread over and completed in 15 years .. .. .	..
17	Annual small bunding should be popularised	24
18	For prevention of erosion of red soils the Agricultural Department should devise suitable measures. Strip cropping system and growth of soil bunding crops and grasses are suggested	25
19	Tree planting to protect the soil from shifting sands along all the river banks should be completed	26
20	For deep ploughing and removal of muth grass in black soils one tractor should be supplied to each taluk	27
21	Suitable small tractors should be devised and they should be popularised.	27
22	Temptation to favour groundnut cake in place of green leaf manure should be resisted	28

Number of the proposal.	Summary of the proposals.	Number of the paragraph in the report.
23	Construction of special stalls to preserve cattle urine for manure should be encouraged	28
24	Nurseries should be raised by sinking of wells to induce ryots to give up drill sowing of paddy	29
25	There are fertile areas suitable for the starting of collective or co-operative farms	30
26	One research station in Anantapur and three sub-stations at Kurnool, Sirvel and Proddattur may be started	31
27	Ten Technical Schools imparting instruction in Scientific methods of agriculture may be started	31
28	Repair and maintenance factories at Kurnool and Guntakal should be encouraged by assisting them to get the required allotments of iron ..	33
29	The staff of the Agriculture Department should be expanded to cope with the additional work suggested above	34

III. LIVESTOCK.

30	The starting of cattle farms in Bellary and Kurnool districts should be expedited	38
31	A cattle farm each may be sanctioned for the districts of Cuddapah, Anantapur and Chittoor	39
32	Two or three stud bulls in each firka should be maintained in charge of a stockman compounder	40
33	A few Murrah buffaloes should be included in the stock of each farm ..	41
34	Assistance to the Sugalis of Kollamakulapalli to be increased and similar assistance given to Sugalis in other areas	42
35	Technical assistance should be given free to persons who wish to start dairy farms and to co-operative societies which wish to assist members to purchase good milking cows or buffaloes and loan of half the cost not exceeding Rs. 2,500 free of interest repayable in 10 years granted ..	43

IV. FORESTS.

36	Tree plantations should be encouraged by distribution of grown up plants and graded remission of land revenue	44
37	Fresh afforestation should be carried out and indigenous species such as margosa which are likely to thrive better should be selected for plantation	45
38	Transfer of control over Panchayat Forests to the Forest Department should be expedited	46
39	Suitable kinds of grass for strip cropping system to prevent soil erosion should be selected and seeds or plants widely distributed	47
40	Growth of Avaram in forests and unreserves should be promoted ..	48
41	Supply of materials for house building at reasonable rates may be considered	75
42	Full use of bamboo may be made for industrial purposes paper mills and cottage industries like mat weaving and furniture	76 & 77
43	Excessive exploitation of forests for charcoal in Chittoor District should be stopped	78

V. POWER DEVELOPMENT.

44	All the existing electrical undertakings should be taken over by the Government .. .. .	..
45	Investigation for establishing steam electrical stations at Kurnool and Cuddapah may be expedited and priority given in the matter of construction	51
46	Pending these major schemes extensions from existing installations may be given as far as possible for agricultural and industrial purposes with important centres—Nandyal, Tadpatri, Madanapalle, etc. ..	51

VI. REORGANIZATION OF ADMINISTRATIVE MACHINERY.

47	The present Ceded Districts Economic Development Board may be abolished and the Rayalaseema Development Board may be instituted to function at the level of the Government	56
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Number of the proposal.	Summary of the proposals.	Number of the paragraph in the report.
48	A separate Development Commissioner should be appointed to initiate plans to co-ordinate the activities of the various departments and to supervise execution. The Collectors and Regional Officers will be subject to his authority in regard to development subjects	56
49	The Collector should be the single authority for execution of all development schemes	56
50	The Rayalaseema Land Development Committee should be set up with the Development Commissioner as Chairman, the Superintending Engineer and a Joint Director of Agriculture as members to be jointly and severally responsible for the execution of schemes. Similarly at the district level the District Land Development Committee should consist of the Collector as Chairman and the Executive Engineer, District Agricultural Officer, District Veterinary Officer and the District Forest Officer as members. There should be a Divisional Development Committee with representatives from these departments and the Revenue Divisional Officer as Chairman	56
51	A block grant of Rs. 5 crores to be spent on land Development suggested.	56
52	The Rayalaseema Development Board may be empowered to sanction small schemes up to Rs. 5,000 in each case and a sum of Rupees five lakhs per year may be placed at its disposal for this purpose .. ..	..
53	The Government may order that the use of the expression "Ceded Districts" may be discontinued and the expression "Rayalaseema" may be used instead	60

CHAPTER III.—LAND—OTHER USES.

I. HORTICULTURE.

54	Fruit growing should be encouraged by the grant of a subsidy of Rs. 25 an acre for a period of five years. A target of 20,000 acres may be fixed	64
55	For watering of orchards about 1,000 wells may be sunk by Government which will irrigate about 5,000 acres. Liberal loans may be granted for sinking wells to irrigate the balance of the area, the first instalment to begin when the trees begin to yield	65
56	Government should open nurseries in each district and private nurseries controlled to prevent disappointment to gardeners long after they invest money	66
57	Persons should be encouraged to grow fruit trees in their houses by distributing plants free and by the grant of two prizes every year	67
58	The canning plant at Kodur should be installed and the balance of the machinery supplied at an early date	69

II. MULBERRY-SERICULTURE.

59	Forty-eight students may be trained each year at Harpanahalli and Hindupur centres in Sericulture so that they may go and start the industry on their own account in their villages	71
60	The Government should arrange to buy the cocoons or yarn themselves or the Co-operative Department may be asked to undertake the work so that silk weavers in the districts can get their yarn cheaper	72
61	Similar arrangements may be made in regard to Ericulture	73

IV. SHEEP.

62	A special staff should be appointed to select and arrange for suitable grazing areas and improve grazing facilities	81
63	Forty-eight centres each with 25 Bikaner and merino sheep in charge of a stockman-compounder should be opened to improve the breed	82
64	Improved shears should be stocked at these centres and loaned to shepherds. A small cleaning machine at each of the 12 taluk centres should be maintained to clean and distribute the wool	83
65	Improved looms should be introduced	84
66	Co-operative Societies like the Lepakshi Society may be formed in the 12 centres for improved tanning and production of leather goods	84

Number of the proposal.	Summary of the proposals	Number of the paragraph in the report
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V. POULTRY.

67	Poultry farms each with 20 hens and 2 exotic cocks (white Leghorn and Rhode Island Red) may be attached to the sheep centres for purposes of demonstration	86
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CHAPTER IV.—MINING

68	The intensive geological survey of the tract should be expedited ..	87
69	The present administration of the mining rules is unsatisfactory. The grant of licences for prospecting and mining should be centralized in the office of the Director of Industries to enable the appointment of a technical staff to deal with applications	90
70	District staff should be appointed for regular inspection of mining operations to prevent wasteful methods and leakage of revenue	91
71	Pending the establishment of a college in the Province 12 students each year for 3 years should be granted stipends and sent up to Dhanbad for training by arrangement with the Government of Bihar	92
72	A chemical research sub-station may be opened at Anantapur	93

CHAPTER V.—INDUSTRIES

I. LARGE-SCALE INDUSTRIES.

73	Local Capital is not abundant and shy	97
	The organization of a finance organization will not help the area. The Government should therefore start the Paint and Cement factories themselves, and one textile factory each in Kurnool and Anantapur Districts following the example of Mysore	
74	Iron and Paper factories may also be started by the Government ..	97
75	The Government should actively help the establishment of other factories for which licences have been granted	97
76	Foreign capital and Experts may be invited but there should be provision for training local talent and investment of local capital	97
77	An industrial school may be opened at Cuddapah, Nandyal and Kuppam.	98

II. RURAL AND COTTAGE INDUSTRIES.

78	The Department of Industries has a scheme for developing cottage industries in the Province and on intensive lines in select firkas as part of the Firka Development Scheme. Experience shows that the students who receive training at these institutions should be given sufficient capital by way of loan to put the training to use on return to their villages and they should be visited for some time till they establish themselves; else that training will be wasted	99
79	Cottage and village industries that exist or existed should be assisted and developed before introducing new activities. A list of such industries as far as is known is given	100
80	Each district should have a technically trained Industries Officer and the Co-operative Department should assist him in developing industries on Co-operative lines	101
81	A District Industries Committee with the Collector as Chairman, Deputy Registrar of Co-operative Societies and District Industries Officer as members may be formed. The Collector should be authorized to grant assistance under the State Aid to Industries Act	101
82	Private institutions started to teach cottage industries should also be eligible for assistance	102

CHAPTER VI.—CO-OPERATION.

83	Effect may be given speedily to the recommendations of the Rayalaseema Co-operative Committee as far as they are found acceptable by the Government	103
84	Twenty godowns for commercial crops like groundnut, cotton and jaggery may be constructed in preference to food crops	104
85	The Government may accept to grant 50 per cent of the cost free and 50 per cent as loan recoverable in 20 easy instalments	105

Number
of the
proposal.

Summary of the proposals.

Number of
the paragraph
in the report

CHAPTER VII.—COMMUNICATIONS.

I. ROADS

- 86 The comprehensive road plan in the Post-war Scheme makes adequate provision for the Rayalaseema districts. But new roads will not be formed if the 50 per cent contribution from the district boards is insisted upon as the district boards are poor and their sources of revenue are inelastic. The full cost may be borne by the Government in regard to new roads in the districts of Cuddapah, Bellary and Anantapur and three-fourth cost in the district of Kurnool 107
- 87 A special grant of Rs. 22.40 lakhs may be made for the renovation of the roads in Cuddapah district spread over a period of five years 108
- 88 The district boards are not able to allot sufficient money for maintenance. All the major district roads and about 50 per cent of the other district roads may be taken over by the Government 109
- 89 The district boards should be required to allot a certain portion of the revenue for maintenance of roads and the balance required for normal maintenance be given as grants 109
- 90 The district boards, particularly of Anantapur and Bellary districts, should be asked to take over and maintain the roads formed as famine relief works as they serve interior villages liable to famine 110

II RAIL TRANSPORT

- 91 A transport survey of the following lines may be undertaken and the lines laid as soon as possible waiving the financial guarantee from the district boards :— 111
- (1) Extension of Hospet to Kottur line to Harihar (via) Harpanahalle. This is of commercial importance.
- (2) A new line from Cuddapah to Nandyal connecting Proddatur, Jammalamadugu, Chagalamarri, Sirvel, Koilkuntla and Banganapalle. This is rich black soil area. This is of commercial importance.
- (3) Extension of the Bellary-Rayadurg line to Dharmavaram (via) Kalyandurg to help an interior backward tract.
- (4) A broad gauge line connecting Cuddapah and Nellore or Ongole to help to open up the eastern part of Cuddapah district and to relieve the strain on the north-east line.

CHAPTER VIII —ESSENTIAL PRIMARY NEEDS.

I. WATER-SUPPLY.

- 92 The recommendations of the Water-supply and Drainage Committee be accepted; that special consideration should be shown to the Ceded districts in the allotment of funds for their urban and rural water-supply schemes 113
- 93 Pending the appointment of District Engineers the rural water-supply schemes in the Rayalaseema districts should be taken over immediately by the Executive Engineers, Public Works Department, as the progress of execution in charge of Collectors is slow for want of proper technical staff and materials 114

II. HOUSING.

- 94 It is suggested that about Rs. 20 lakhs should be spent on the improvement of the housing conditions of the Harijans in Rayalaseema districts. 116

III. PUBLIC HEALTH AND MEDICAL AID.

- 95 A standing agreement may be entered into with the Mysore State for mutual consultations of health authorities and enforcement of uniform plague regulations as plague breaks out in one or other of the border taluks almost every year 118

IV. EDUCATION.

- 96 As Rayalaseema is very backward in education special preference may be shown in future extensions of the compulsory Primary Education Scheme 120
- Special steps should be taken to increase the number of trained teachers as paucity of teachers seems to be holding up the scheme of expansion.

Rough estimate of the cost of proposals specially proposed for the speedy and co-ordinated development of Rayalaseema, i.e., proposals not in force in other districts or not so far proposed for other districts or for which special preference is asked. The cost has been estimated for a period of 5 years except where otherwise stated.

Details.	Amount recoverable in lakhs. RS.	Capital cost in lakhs. RS.	Recurring or maintenance cost in lakhs. RS.
I.—LAND DEVELOPMENT.			
I. IRRIGATION.			
(a) Thorough overhaul of minor irrigation sources	110.00	..
(b) Sinking of Government irrigation wells	60.00	..
(c) Provision of jeeps to officers of Public Works Department	0.84	..
II. IMPROVEMENTS IN METHODS OF CULTIVATION.			
(a) Contour bunding five years about 12,000 acres	6.00	2.00	..
(b) Small bunding	0.15	0.45
(c) Afforestation of river banks	12.00	..
(d) Cost of 45 tractors one for each taluk	12.00	..
(e) Nurseries to encourage transplantation of paddy, four years	0.40
(f) Research station in Anantapur district and three sub-stations in Kurnool, Sirvel and Proddatur.	4.20	4.00
(g) Ten Technical High Schools	1.00	1.03
III. LIVESTOCK.			
(a) Three livestock farms in Anantapur, Cuddapah and Chittoor in addition to those in Kurnool and Bellary already contemplated.	9.00	6.69
(b) Maintenance of two or three stud-bulls in each firka headquarters in charge of a stockman-compounder.	5.00	3.00
(c) Help to cattle-breeders and dairy farms	3.00	..	2.00
IV. FORESTS.			
Distribution of plants and grant of subsidies to encourage tree-growing.	10.00
V. POWER DEVELOPMENT.			
(a) Taking over electricity undertakings	90.00	..
(b) Two electric steam stations in Kurnool and Cuddapah	200.00	..
(c) Purchase of power from Jog Hydro station	50.00	..
(d) Other extensions	60.00	..
VI. REORGANIZATION.			
Post of the Development Commissioner and his staff including travelling allowances.	4.00
Total	9.00	616.19	31.57

II.—LAND—OTHER USES.

I. HORTICULTURE.

(a) Subsidies for growing fruit trees .. .. .	..	..	25.00
(b) Sinking a thousand wells .. .. .	..	20.00	..
(c) Prizes for growing trees in backyards and staff .. .. .	..	..	5.00

II. SERICULTURE.

(a) Training 48 students each year for three years in Sericulture .. .. .	..	..	0.18
(b) Training 16 students each year for three years in Sericulture .. .. .	..	..	0.06

Details.	Amount recoverable in lakhs. RS.	Capital cost in lakhs. RS.	Recurring or maintenance cost in lakhs. RS.
III. SHEEP.			
(a) Provision of grazing facilities .. .. .	..	..	0.20
(b) Maintenance of 48 centres, each centre with 25 sheep of Bikaner merino breeds in charge of a stockman-compounder each for a period of three years.	..	..	5.40
(c) Supply of improved shears at 2 dozens for each centre, 96 dozens ..	..	0.05	..
(d) Cost of 12 small machines for cleaning and carding wool at 12 taluk centres.	..	6.00	..
(e) Subsidies and loans to co-operative societies for tanning and manufacture of leather goods.	4.00	..	2.00
(f) Forty-eight poultry units .. .. .	..	0.05	0.05
Total ..	4.00	26.10	37.89

III.—MINING.

(a) Training 12 students each year for three years at Dhanbad in Mining. It is a four years' course.	..	..	0.82
(b) Open a Chemical Research sub-station at Anantapur ..	..	1.00	1.25
Total ..	..	1.00	2.07

IV.—INDUSTRIES.**I. LARGE-SCALE INDUSTRIES.**

(a) Industrial Schools at Cuddapah, Nandyal and Kuppam	12.00	3.75
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II. COTTAGE AND RURAL INDUSTRIES.

(b) Assistance to cottage and village industries	2.50	..	2.50
Total ..	2.50	12.00	6.25

V.—CO-OPERATION.

Construction of godowns	6.00	6.00	..
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VI.—ROADS.

(a) Special grants for renovating Cuddapah roads	22.40
(b) Increased grants for maintenance of roads including famine roads for five years.	25.00
Total ..	..	..	47.40

ABSTRACT.**MAJOR HEAD.**

I. Land Development	9.00	616.19	31.57
II. Land—Other uses	4.00	26.10	37.89
III. Mining .. .. .	..	1.00	2.07
IV. Industries	2.50	12.00	6.25
V. Co-operation	6.00	6.00	..
VI. Roads .. .. .	..	..	47.40
Total ..	21.50	661.29	125.18

Grand total .. Rs. 807.97 lakhs.

